PIPE CUTTING AND THREADING MACHINES

VSESOJUZNOJE EXPORTNO-IMPORTNOJE OBJEDINENIJE

STANKOIMPORT

COUPLING BORING MACHINES
COUPLING THREADING MACHINES
COUPLING CUTTING-OFF MACHINES
COUPLING SCREWING-ON MACHINES
PIPE THREADING MACHINES
PIPE CUTTING-OFF MACHINES

U S S R
MOSCOW

This catalogue contains short specifications of the most common types of machine tools exported by the Vsesojuznoje Exportno-Importnoje Objedinenije "Stankoimport".

Detailed pamphlets sent on request.

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The Machine Tools produced in the USSR are outstanding for their high efficiency, convenience and safety in operation and long service.

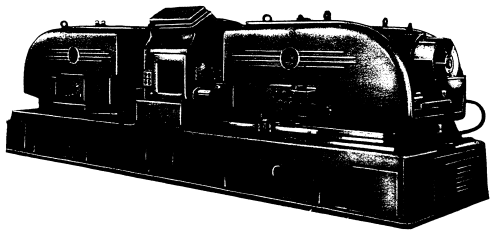
The first class material, perfect modern design and skilful workmanship provide accuracy, high efficiency and durability of the Machine Tools.

Steady improvement of machine tool design in the USSR aims at the increase of productivity, accuracy, reliability and dependability of machine in operation, as well as the reduction of operator's fatigue by improving and convenient placing of all operating controls and the all-increasing automatization of operation.

The Vsesojuznoje Exportno-Importnoje Objedinenije "Stankoimport" is able to offer a wide range of Machine Tools both universal and special types including Automatic Transfer Machines and Automatic Workshops.

COUPLING BORING MACHINE

Model 9185



The 9185 Coupling Boring Machine is designed for two-side boring tapers, cylindrical recesses and facing couplings for casing pipes.

Machining of couplings is accomplished on both ends by special, combined, multi-tool holders. The blanks are gripped in a mechanized, self-centering chuck, which is driven by a separate electric motor.

The coupling boring tool holders, mounted on two spindle heads, are rotated and fed.

The spindle heads are provided with rapid approach, normal (first) and slowing down (second) working feeds until a dead stop is reached and rapid withdrawn — all these movements are obtained hydraulically.

The spindle speeds for each spindle head are obtained by an adjustable speed D. C. motor and a pair of pick-off gears.

The working cycle of the machine is completely automatic, requiring only that the operator load the machine, start the cycle and unload the finished part.

The rated production of the machine is as follows:

Coupling diameter $7^{5}/_{8}$" ..... 9 — 14 couplings per hour, depending on material

Coupling diameter $16^{3}/_{4}$" ..... 7 — 10.5 couplings per hour, depending on material.

SPECIFICATIONS

Capacity

Distance, spindle center to floor, mm	1200
Distance, spindle center to bed ways, mm	410
Nominal diameter of coupling machined, inches:	
Minimum	7⅝
Maximum	16¾
Range of coupling outside diameters, mm	216—451
Range of nominal coupling lengths, mm	203—229

Spindle Head

Number of heads	2
Maximum longitudinal travel of spindle head (by power), mm	560

Speeds and Feeds

Range of spindle speeds, r. p. m.	7—36.4
Range of feeds of spindle heads (infinitely variable), mm min	8—100
Number of working feeds changing during the cycle	2

Drive

D. C. motors for main drive (220 or 440 V):

Number	2
Power, kW	28.5
Speeds, r. p. m.	1000 1650

220/380 volt, 3 phase, 50 cycle A. C. motors:

Hydraulic drive:	
Number	2
Power, kW	2.8
Speed, r. p. m.	1000
Coupling gripping:	
Number	1
Power, kW	2.8
Speed, r. p. m.	1500
Coolant pump:	
Number	2
Power, kW	2.8
Speed, r. p. m.	1500

Space Occupied

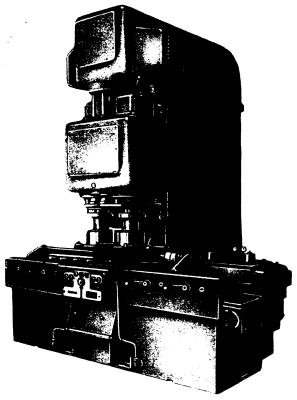
Floor space, mm	6400 × 2000
Height of machine, mm	2120

Weight

Net weight, kg	approx. 30 000

TWO-SPINDLE VERTICAL COUPLING THREADING MACHINE

Model 9B112



The 9B112 Two-Spindle Coupling Threading Machine is designed for cutting taper threads in couplings with plain and upset ends.

Threading is effected by revolving and feeding two special die heads with circular chasers. The chasers collapse automatically at the end of threading to enable a free return movement of the die heads.

Smooth change of die head spindle speeds is ensured by an adjustable speed D. C. motor through a speed gear box and pick-off gears.

Spindle rotation is from a spline shaft and helical gears. The spindle head has both feed and rapid traverse movements. Feed changes are obtained by pick-off gears.

The working cycle of the machine is fully automatic.

The machine can cut both right- and left-hand threads.

Centering, clamping and releasing of work pieces are accomplished mechanically and do not require any physical efforts from the operator.

In a fixture, mounted on rollers, are clamped four couplings. The required clamping force is predetermined, and is controlled by means of a pressure relay.

Alternately, each pair of couplings is in working position. After threading one end of the couplings the fixture is swivelled through an angle of 180° so that both the other ends can be threaded.

Travel of lifting tables, changing position of fixture, clamping and releasing of work pieces are effected by means of a hydro-mechanical system, controlled through hydraulic panels.

Loading of couplings is carried out during the working cycle of the machine.

The production of the machine (based on a cutting speed of 7 m/min) is as follows:

Coupling diameter $1^1/_2$" ..... 60 couplings per hour

Coupling diameter $4^1/_2$" ..... 25 couplings per hour

SPECIFICATIONS

Capacity

Number of spindles	2
Distance, spindle axis to bed ways, mm	280
Distance between spindles, mm	360
Number of couplings threaded simultaneously	2
Nominal diameter of couplings threaded, inches:	
Minimum	$1^1/_2$
Maximum	$4^1/_2$
Maximum length threaded, mm	100
Threads per inch that can be cut	8 and 10

Spindle Head

Maximum travel of spindle head, mm	200

Speeds and Feeds

Range of spindle speeds, r. p. m.	11.4—55.2
Number of spindle speeds at constant speed of main drive motor	3
Die head feeds, mm/min:	
Minimum	27
Maximum	127
Rapid traverse speed of head, m/min	1.8

Fixture

Travel of fixture carriage, mm	760
Traverse speed of fixture carriage, m/min	7

Drive

Number of electric motors	4
Total power required, kW	14.2
D. C. main drive motor:	
Power, kW	5.8
Speeds, r. p. m.	780—1500
220/380 volt, 3 phase, 50 cycle A. C. motors:	
Rapid traverse:	
Power, kW	2.8
Speed, r. p. m.	1500
Hydraulic pump:	
Power, kW	2.8
Speed, r. p. m.	1000
Coolant pump:	
Power, kW	2.8
Speed, r. p. m.	1500

Space Occupied

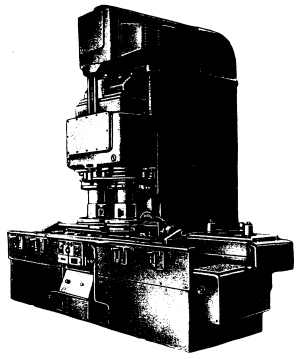
Floor space, mm	3000×2360
Height of machine, mm	3210

Weight

Net weight, kg	approx. 14000

TWO-SPINDLE VERTICAL COUPLING THREADING MACHINE

Model 9B113



The 9B113 Two-Spindle Coupling Threading Machine is designed for cutting taper threads in couplings.

Threading is effected by revolving and feeding two special die heads with circular chasers. The chasers collapse automatically at the end of threading to enable a free return movement of the die heads.

Smooth change of die head spindle speeds is ensured by an adjustable speed D. C. motor through a speed gear box and pick-off gears.

Spindle rotation is from a spline shaft and helical gears.

The spindle head has both feed and rapid traverse movements. Feed changes are obtained by pick-off gears.

The working cycle of the machine is fully automatic.

The machine can cut both right- and left-hand threads.

Centering, clamping and releasing of work pieces are accomplished mechanically and do not require any physical efforts from the operator.

In a fixture, mounted on rollers, are clamped four couplings. The required clamping force is predetermined, and is controlled by means of a pressure relay.

Alternately, each pair of couplings is in working position. After threading one end of the couplings, the fixture is swivelled through an angle of 180° so that both the other ends can be threaded. Travel of lifting tables, changing position of fixture, clamping and releasing of work pieces are effected by means of a hydro-mechanical system, controlled through hydraulic panels.

Loading of couplings is accomplished during the working cycle of the machine.

The production of the machine (based on a cutting speed of 7 m/min) is as follows:

Coupling diameter $2^{7}/_{8}''$ ..... 38.2 couplings per hour

Coupling diameter $8^{5}/_{8}''$ ..... 14 couplings per hour

SPECIFICATIONS

Capacity

Number of spindles	2
Distance, spindle axis to bed ways, mm	360
Distance between spindles, mm	500
Number of couplings threaded simultaneously	2
Nominal diameter of couplings threaded, inches:	
Minimum	$2^{7}/_{8}$
Maximum	$8^{5}/_{8}$
Maximum length threaded, mm	98
Threads per inch that can be cut	8 and 10

Spindle Head

Maximum travel of spindle head, mm	240

Speeds and Feeds

Range of spindle speeds, r. p. m.	7.8—39.2
Number of spindle speeds at constant speed of main drive motor	3
Die head feeds, mm/min:	
Minimum	25
Maximum	124
Rapid traverse speed of head, m/min	1.8

Fixture

Travel of fixture carriage, mm	1000
Traverse speed of fixture carriage, m/min	5

Drive

Number of electric motors	4
Total power required, kW	16.9
D. C. main drive motor:	
Power, kW	8.5
Speeds, r. p. m.	780 1500
220/380 volt, 3 phase, 50 cycle A. C. motors:	
Rapid traverse:	
Power, kW	2.8
Speed, r. p. m.	1500
Hydraulic pump:	
Power, kW	2.8
Speed, r. p. m.	1000
Coolant pump:	
Power, kW	2.8
Speed, r. p. m.	1500

Space Occupied

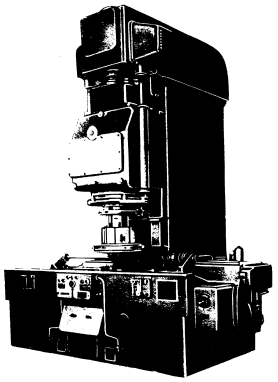
Floor space, mm	3780×2520
Height of machine, mm	3510

Weight

Net weight, kg	approx. 16000

VERTICAL COUPLING THREADING MACHINE

Model 9B115



The 9B115 Coupling Threading Machine is designed for cutting taper threads in couplings.

Threading is effected by revolving and feeding a special die head with circular chasers. The chasers collapse automatically at the end of threading to enable a free return movement of the die head.

Smooth change of die head spindle speeds is ensured by an adjustable speed D. C. motor through a speed gear box. Spindle rotation is from a spline shaft and helical gears.

The spindle head has both feed and rapid traverse movements.

Feed changes are obtained by pick-off gears.

The working cycle of the machine is fully automatic.

The machine can cut both right- and left-hand threads.

Centering, clamping and releasing of work piece are accomplished mechanically, and do not require any physical effort from the operator.

The machine is provided with two pneumatic hoists for easy loading and unloading of couplings.

In a fixture, mounted on rollers, are clamped two couplings simultaneously. The required clamping force is predetermined, and is controlled by means of a pressure relay.

Alternately, each coupling is in working position. After threading one end, the fixture is swivelled through an angle of 180° so that the other end can be threaded.

Travel of lifting tables, changing position of fixture, clamping and releasing of work piece are effected by means of a hydro-mechanical system, controlled through hydraulic panels.

Loading and unloading of couplings are accomplished during the working cycle of the machine.

The production of the machine (based on a cutting speed of 7 m min) is as follows:

Coupling diameter 7⅝" ..... 7.6 couplings per hour

Coupling diameter 16¾" ..... 4.5 couplings per hour

SPECIFICATIONS

Capacity

Number of spindles	1
Distance, spindle axis to bed ways, mm	320
Number of couplings threaded simultaneously	1
Nominal diameter of couplings threaded, inches:	
Minimum	7⅝
Maximum	16¾
Maximum length threaded, mm	115
Threads per inch that can be cut	6 and 8

Spindle Head

Maximum travel of head, mm	280

Speeds and Feeds

Range of spindle speeds, r. p. m.	5.2—25
Number of spindle speeds at constant speed of main drive motor	3
Feeds of die heads, mm/min:	
Minimum	16
Maximum	103
Rapid traverse speed of head, m min	1.8

Fixture

Travel of fixture carriage, mm	750
Traverse speed of fixture carriage, m/min	5

Drive

Number of electric motors	4
Total power required, kW	16.9
D. C. main drive motor:	
Power, kW	8.5
Speeds, r. p. m.	780—1500
220 380 volt, 3 phase, 50 cycle A. C. motors:	
Rapid traverse:	
Power, kW	2.8
Speed, r. p. m.	1500
Hydraulic pump:	
Power, kW	2.8
Speed, r. p. m.	1000
Coolant pump:	
Power, kW	2.8
Speed, r. p. m.	1500

Space Occupied

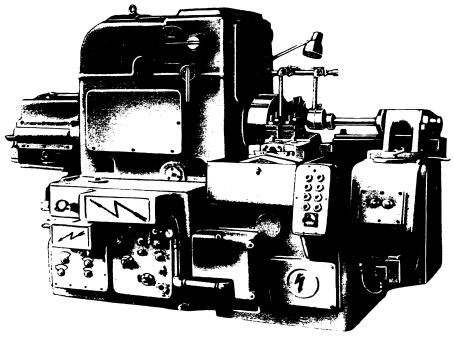
Floor space, mm	3430×2545
Height of machine, m	3805

Weight

Net weight, kg	approx. 17000

COUPLING CUTTING-OFF MACHINE

Model 9162



The 9162 Coupling Cutting-off Machine is designed for cutting off coupling blanks for pipes.

The cutting-off operation is effected by two pairs of cut-off tools, which, mounted on the front and rear cross slides, cut off two couplings from the pipe simultaneously.

The working cycle of the machine is fully automatic.

The pipe to be cut off, which passes through a hollow spindle up to a stop, is gripped by a collet chuck and rotates with the spindle, then the stop recedes to its starting position, the tool slides are fed and cut off the couplings. After the cutting-off operation, the tool slides return to their starting position, the chuck opens, the stop moves back to its working position, the pipe is again fed to the stop and a new cycle is started.

Pipe gripping by collet chucks, pipe clamping by feed rollers and feed of cut-off tool slides are obtained hydraulically. The pipe is fed through the spindle mechanically.

Spindle speeds are set by two shifting levers; when necessary, added speed changes can be obtained with pick-off gears.

The production of the machine is as follows:

Coupling size 55× 7.5 mm (1½") ..... 134 couplings per hour

Coupling size 140×21.5 mm (4½") ..... 48 couplings per hour

SPECIFICATIONS

Capacity

Distance, spindle axis to machine base, mm	1100
Distance, chuck face to first pair of cut-off tools, mm	35
Distance, chuck face to feed rollers, mm	1395
Number of couplings cut off simultaneously	2
Range of coupling outside diameters:	
In millimeters	48—141
Nominal, in inches	1 1/2—4 1/2

Cutting-off Tool Slides

Number of tool slides	2
Distance between cut-off tools (along spindle axis), mm	20—220
Maximum travel of each slide, mm	75

Speeds and Feeds

Number of spindle speeds	11
Range of spindle speeds, r. p. m.	36.5—374
Range of feeds of tool slides (infinitely variable), mm/min	10—80

Drive

220/380 volt, 3 phase, 50 cycle A. C. motors:

Main drive:	
Power, kW	10
Speed, r. p. m.	1000
Hydraulic pump:	
Power, kW	2.8
Speed, r. p. m.	1000
Coolant pump:	
Power, kW	0.125
Speed, r. p. m.	3000
Lubricating pump:	
Power, kW	0.6
Speed, r. p. m.	1500

Space Occupied

Floor space, mm	2800×1565
Height of machine, mm	1895

Weight

Net weight, kg	approx. 7050

COUPLING CUTTING-OFF MACHINE

Model 9Г163С1

The 9Г163С1 Coupling Cutting-off Machine is designed for cutting off coupling blanks for pipes.

The cutting off operation is effected by two pairs of cut-off tools, which, mounted on the front and rear cross slides cut off two couplings from the pipe simultaneously.

The working cycle of the machine is fully automatic.

The pipe to be cut off, which passes through a hollow spindle up to a stop, is gripped by a collet chuck and rotates with the spindle, then the stop recedes to its starting position, the tool slides are fed and cut off the couplings. After the cutting-off operation, the tool slides return to their starting position, the chuck opens, the stop moves back to its initial working position, the pipe is again fed to the stop and a new cycle is started.

Pipe gripping by collet chuck, pipe clamping by feed rollers and feed of cut-off tools slides are obtained hydraulically.

The pipe is fed through the spindle mechanically.

Spindle speeds are set by two shifting levers; when necessary, added speed changes can be obtained with pick-off gears.

The production of the machine is as follows:

Coupling size 55×7.5 mm (1 1/2")	116 couplings per hour
Coupling size 243×21.5 mm (8 3/8")	28 couplings per hour

SPECIFICATIONS

Capacity

Distance, spindle axis to machine base, mm	1100
Distance, chuck face to first pair of cut-off tools, mm	35
Distance, chuck face to feed rollers, mm	1645
Number of couplings cut off simultaneously	2
Range of coupling outside diameters:	
In millimeters	55—250
Nominal, in inches	1½—8⅝

Cutting-off Tool Slides

Number of slides	2
Distance between cut-off tools (along spindle axis), mm	20—245
Maximum travel of each slide, mm	150

Speeds and Feeds

Number of spindle speeds	10
Range of spindle speeds, r. p. m.	24.4—195
Range of feeds of tool slides (infinitely variable), mm/min	5—50

Drive

220/380 volt, 3 phase, 50 cycle A. C. motors:

Main drive:	
Power, kW	10
Speed, r. p. m.	1000
Hydraulic pump:	
Power, kW	2.8
Speed, r. p. m.	1000
Coolant pump:	
Power, kW	0.15
Speed, r. p. m.	3000
Lubricating pump:	
Power, kW	0.6
Speed, r. p. m.	1000

Space Occupied

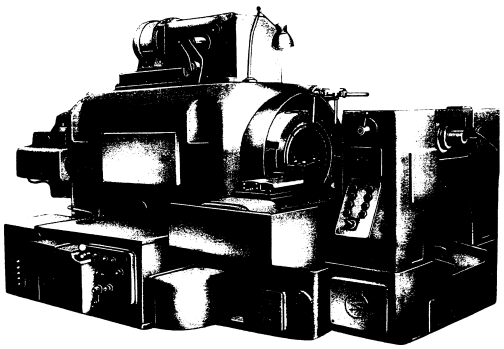
Floor space, mm	3250 × 2030
Height of machine, mm	2170

Weight

Net weight, kg	approx. 11360

COUPLING CUTTING-OFF MACHINE

Model 9167



The 9167 Coupling Cutting-off Machine is designed for cutting off coupling blanks for pipes.

The cutting-off operation is effected by two pairs of cut-off tools, which, mounted on the front and rear cross slides, cut off two couplings from the pipe simultaneously.

The working cycle of the machine is fully automatic.

The pipe to be cut off, which passes through a hollow spindle up to a stop, is gripped by a collet chuck and rotates with the spindle; then the stop recedes to its starting position, the tool slides are fed and cut off the couplings.

After the cutting-off operation, the tool slides return to their starting position, the chuck opens, the stop moves back to its initial working position, the pipe is again fed to the stop and a new cycle is started.

Pipe gripping by collet chuck, pipe clamping by feed rollers and feed of cut-off tool slides are obtained hydraulically.

The pipe is fed through the spindle mechanically.

Spindle speeds are set by two shifting levers; when necessary, added speed changes can be obtained with pick-off gears.

The production of the machine is as follows:

Coupling size 136 - 21 mm (4 3/4") ..... 14 couplings per hour

Coupling size 451 - 24.5 mm (16 3/4") ..... 18 couplings per hour

SPECIFICATIONS

Capacity

Distance, spindle axis to machine base, mm	1100
Distance, chuck face to first pair of cut-off tools, mm	35
Distance, chuck face to feed rollers, mm	2225
Number of couplings cut off simultaneously	2
Range of coupling outside diameters:	
In millimeters	136 - 451
Nominal in inches	1 1/2 - 16 3/4

Cutting-off Tool Slides

Number of tool slides	2
Distance between cut-off tools (along spindle axis), mm	20 - 245
Maximum travel of each slide, mm	180

Speeds and Feeds

Number of spindle speeds	10
Range of spindle speeds, r. p. m.	19.4 - 155
Range of feeds of tool slides (infinitely variable), mm min	5 - 35

Drive

220-380 volt, 3 phase, 50 cycle A. C. motors:

Main drive:	
Power, kW	14
Speed, r. p. m.	1000
Hydraulic pump:	
Power, kW	2.8
Speed, r. p. m.	1000
Coolant pump:	
Power, kW	0.15
Speed, r. p. m.	3060
Lubricating pump:	
Power, kW	0.6
Speed, r. p. m.	1000

Space Occupied

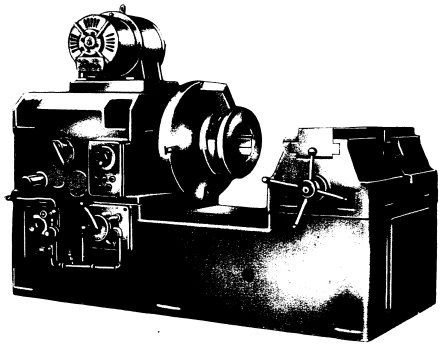
Floor space, mm	3900 - 2370
Height of machine, mm	2325

Weight

Net weight, kg	approx. 16600

COUPLING SCREWING-ON MACHINE

Model 9B173



The 9B173 Coupling Screwing-on Machine is designed for screwing couplings on pipes.

The pipe, with the coupling preliminarily screwed on by hand, is clamped in a pneumatic vise.

The coupling is gripped in interchangeable, movable, lever-type chucks which are set in the spindle.

Four sizes of interchangeable chucks are used for the whole range of couplings to be screwed on.

The chuck spindle speeds are set by an adjustable speed D. C. motor and cluster gears of a speed gear box.

The machine can be arranged for screwing out the coupling from the pipe by a simple set-up.

The machine is controlled by push buttons and a hand-operated pneumatic valve.

The rated production of the machine is as follows:

Pipe joint diameter 1 1/2" ..... 95 pieces per hour

Pipe joint diameter 8 5/8" ..... 65 pieces per hour

SPECIFICATIONS

Capacity

Distance, coupling axis to machine base, mm 1100

Maximum travel of each jaw of pipe vise, mm 40

Maximum longitudinal travel of coupling gripping chuck, mm 100

Range of nominal diameters of screwed joint of pipe and coupling, inches 1½ - 8⅝

Range of out-side diameters of pipes held in vise, mm ..... 33,5 - 219

Ranges of out-side diameters of couplings held in chucks, mm ..... 34 - 65; 73 - 103; 114 - 171; 188 - 245

Speeds

Range of spindle speeds, r. p. m. ..... 9 - 37

Drive

D. C. electric motor for spindle drive:

Voltage, V 220; 440

Power, kW 8,5; 9,5

Speeds, r. p. m. ..... 780 - 1560

Air pressure in mains, atm ... 1

Space Occupied

Floor space, mm ..... 2350 - 1350

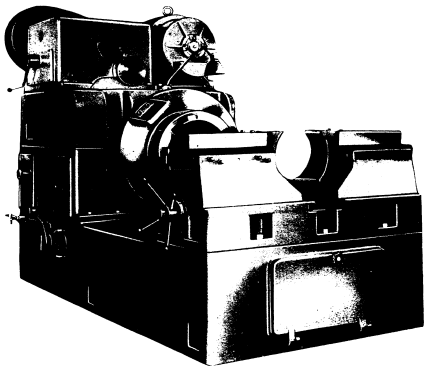
Height of machine, mm 2080

Weight

Net weight, kg ..... approx. 8000

COUPLING SCREWING-ON MACHINE

Model 9B175



The 9B175 Coupling Screwing-on Machine is designed for screwing couplings on pipes.

The pipe, with the coupling preliminarily screwed on by hand, is clamped in a pneumatic vise.

The coupling is gripped in interchangeable, movable, lever-type chucks, which are set in the spindle.

Four sizes of interchangeable chucks are used for the whole range of couplings to be screwed on.

The chuck spindle speeds are set by an adjustable speed D. C. motor and a speed gear box.

The machine can be arranged for screwing out the coupling from the pipe by a simple set-up.

The machine is controlled by push buttons and a hand-operated pneumatic valve.

The rated production of the machine is as follows:

Pipe joint diameter 4¾" ..... 80 pieces per hour

Pipe joint diameter 16¾" ..... 40 pieces per hour

SPECIFICATIONS

Capacity

Distance, coupling axis to machine base, mm	1100
Maximum travel of each jaw of pipe vise, mm	40
Maximum longitudinal travel of coupling gripping chucks, mm	60
Range of nominal diameters of screwed joint of pipe and coupling, inches	$1^1/_2$ – $16^3/_4$
Range of outside diameters of pipes, held in vise, mm	114 – 426
Ranges of outside diameters of couplings, held in chucks, mm	136 – 171; 188 – 213; 269 – 351; 376 – 451

Speeds

Range of spindle speeds, r. p. m.	5.3 – 15

Drive

D. C. electric motor for spindle drive:	
Voltage, V	220; 440
Power, kW	30; 28.5
Speeds, r. p. m.	1000 – 1650; 975 – 1650
Air pressure in mains, atm	4

Space Occupied

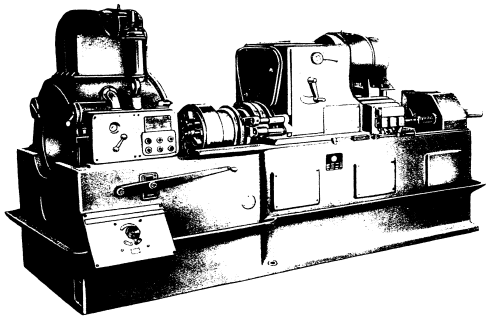
Floor space, mm	3110 × 1720
Height of machine, mm	2355

Weight

Net weight, kg	approx. 11500

PIPE THREADING MACHINE

Model 9B143



The 9B143 Pipe Threading Machine is designed for cutting taper threads on pipes.

The pipe to be threaded is clamped in a stationary chuck. Threading is effected by a special rotary die head with circular chasers, which are automatically opened at the end of the feed movement.

Spindle speeds, with the die head bolted on, are changed by D. C. motor through the speed gear box and pick-off gears.

The spindle headstock has working and rapid power feeds. Power feeds are obtained by pick-off gears.

The working cycle of the machine is automatic.

The production of the machine for pipes $1^1/_2$" is 57 pipe ends per hour, and for pipes $8^5/_8$" is 16 pipe ends per hour.

SPECIFICATIONS

Capacity

Distance, spindle axis to bed ways, mm	75
Distance, face of spindle to surface of chuck, mm:	
Minimum	555
Maximum	1015
Outside diameter of pipes threaded:	
Minimum	1½" (48.26 mm)
Maximum	8⅝" (219.1 mm)
Threads per inch cut	4, 5, 6, 8 and 10
Maximum length threaded, mm	98.5

Spindle Headstock

Maximum travel of headstock, mm	460

Speeds

Range of spindle speeds, r. p. m.	7.3—57

Drive

Number of electric motors	4
Total power required, kW	16.9
D. C. main drive motor:	
Power, kW	8.5
Speeds, r. p. m.	780 1560
220 380 volt, 3 phase, 50 cycle A. C. motors:	
Rapid travel drive:	
Power, kW	2.8
Speed, r. p. m.	1500
Chuck clamping drive:	
Power, kW	2.8
Speed, r. p. m.	1500
Coolant pump:	
Power, kW	2.8
Speed, r. p. m.	1500

Space Occupied

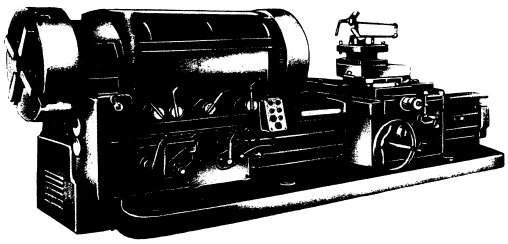
Floor space, mm	4400 × 1750
Height of machine, mm	1900

Weight

Net weight (without tools), kg	approx. 13000

PIPE THREADING MACHINE

Model 1983M



The 1983M Pipe Threading Machine is designed for turning operations and for threading pipes, rods, joints which are used in the oil industry.

The machine is driven by separate electric motor.

The pipe to be threaded is inserted into a hollow spindle and clamped by two mechanized 4-jaw chucks, which rotate with the spindle.

The machine is provided with a two-roller steady rest to support the end of the pipe being threaded.

The threading cutters are fastened on a four-way revolving tool holder.

The machine is supplied with a taper attachment.

SPECIFICATIONS

Capacity

Height of centers, mm	400
Diameter of pipes threaded, mm:	
Minimum	70
Maximum	290
Thread that can be cut:	
Metric, pitch in mm	2—14
English, threads per inch	14—2

Slide (with Taper Attachment)

Maximum travel of slide, mm:	
Longitudinal:	
Power	800
By hand	1050
Cross (power or hand)	325
Height from tool bottom to center line, mm	40

Maximum travel of tool slide, mm	250
Maximum tool slide swivel	±60°
Length of taper turned at one setting, mm	120
Maximum taper	±10°

Spindle

Hole diameter in spindle, mm	310

Speeds and Feeds

Number of spindle speeds	12
Range of spindle speeds (forward rotation), r. p. m.	53–255
Number of longitudinal and cross feeds of slide	18
Range of slide feeds, mm per revolution of spindle:	
Longitudinal	0.22–1.56
Cross	0.08–0.6

Drive

220/380 volt, 3 phase, 50 cycle A. C. motors:

Main drive:	
Power, kW	14
Speed, r. p. m.	1500
Chuck clamping drive:	
Power, kW	1.7
Speed, r. p. m.	1500
Coolant pump:	
Power, kW	0.125
Speed, r. p. m.	3060

Space Occupied

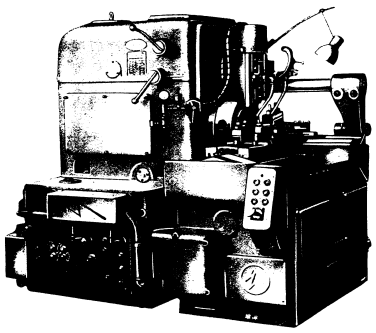
Floor space, mm	3865 × 1800
Height of machine, mm	1545

Weight

Net weight, kg	approx. 8100

PIPE CUTTING-OFF MACHINE

Model 9152



The 9152 Pipe Cutting-off Machine is designed for cutting off pipe ends, chamfering the outside diameter and removing burrs on the inside diameter of pipes.

Cutting off is effected by two simultaneously operating cut-off tools, which are mounted on the front and rear cross slides.

The chamfering operation is by a tool mounted on a special slide.

The pipe to be cut off passes through a hollow spindle and is gripped by a collet chuck which rotates with the spindle.

Gripping of pipe and feeding of cut-off tools are effected hydraulically; feed of chamfering tool is by pneumatic means.

Spindle speed changes are obtained by two shifting levers; when necessary, added speed changes can be obtained with pick-off gears.

A hand-lever-operated fixture for removing burrs on the inside of the pipe is mounted on the front tool slide.

The machine is fitted with a collapsible and adjustable stock stop.

The production of the machine is as follows:

Pipe size 38× 3 mm	103 pipe ends per hour
Pipe size 152×13 mm	40 pipe ends per hour

SPECIFICATIONS

Capacity

Distance, spindle axis to machine base, mm	1100
Distance, chuck face to cut-off tools, mm	35 – 265
Distance, chuck face to rear face of spindle, mm	1175
Range of pipe outside diameters, mm	38 – 152
Range of pipe lengths admitted when working with stop, mm	100 – 450

Cut-off Tool Slides

Number of slides	2
Maximum travel of each slide, mm	75

Speeds and Feeds

Number of spindle speeds	11
Range of spindle speeds, r. p. m.	36.5 – 374
Range of feeds of cut-off slides (infinitely variable), mm/min	10 – 30

Drive

220/380 volt, 3 phase, 50 cycle A. C. motors:

Main drive:	
Power, kW	10
Speed, r. p. m.	1000
Hydraulic pump:	
Power, kW	2.8
Speed, r. p. m.	1000
Coolant pump:	
Power, kW	0.125
Speed, r. p. m.	3000
Lubricating pump:	
Power, kW	0.6
Speed, r. p. m.	1500

Space Occupied

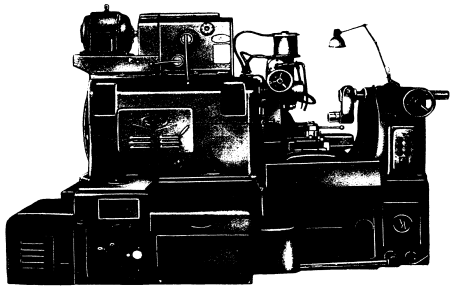
Floor space, mm	2150 × 1565
Height of machine, mm	1895

Weight

Net weight, kg	approx. 6400

PIPE CUTTING-OFF MACHINE

Model 9Г153С1



The 9Г153С1 Pipe Cutting-off Machine is designed for cutting off pipe ends, chamfering the outside diameter and removing burrs on the inside diameter of pipes.

Cutting off is effected by two simultaneously operating cut-off tools, which are mounted on the front and rear cross slides.

The chamfering operation is by a tool mounted on a special slide.

The pipe to be cut off passes through a hollow spindle and is gripped by a collet chuck which rotates with the spindle.

Gripping of pipe and feeding of cut-off tools are effected hydraulically; feed of chamfering tool is by pneumatic means.

Spindle speed changes are obtained by two shifting levers; when necessary, added speed changes can be obtained with pick-off gears.

A hand-lever-operated fixture for removing burrs on the inside of the pipe is mounted on the front tool slide.

The machine is fitted with a collapsible and adjustable stock stop.

The production of the machine is as follows:

Pipe size 48 × 4 mm ..... 77 pipe ends per hour

Pipe size 219 × 12.5 mm ..... 29 pipe ends per hour

SPECIFICATIONS

Capacity

Distance, spindle axis to machine base, mm	1100
Distance, chuck face to cut-off tools, mm	35 – 280
Distance, chuck face to rear face of spindle, mm	1510
Range of pipe outside diameters, mm	38 – 250
Range of pipe lengths admitted when working with stop, mm	100 – 400

Cut-off Tool Slides

Number of tool slides	2
Maximum travel of each slide, mm	150

Speeds and Feeds

Number of spindle speeds	10
Range of spindle speeds, r. p. m.	24.4 – 195
Range of feeds of cut-off slides (infinitely variable) mm/min	5 – 50

Drive

220/380 volt, 3 phase, 50 cycle A. C. motors:

Main drive:	
Power, kW	10
Speed, r. p. m.	1000
Hydraulic pump:	
Power, kW	2.8
Speed, r. p. m.	1000
Coolant pump:	
Power, kW	0.15
Speed, r. p. m.	3000
Lubricating pump:	
Power, kW	0.6
Speed, r. p. m.	1000

Space Occupied

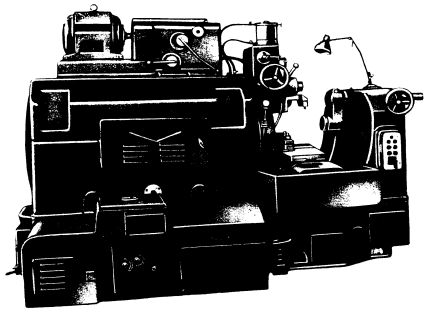
Floor space, mm	3300 × 2030
Height of machine, mm	2170

Weight

Net weight, kg	approx. 10530

PIPE CUTTING-OFF MACHINE

Model 9157



The 9157 Pipe Cutting-off Machine is designed for cutting off pipe ends, chamfering the outside diameter and removing burrs on the inside diameter of pipes.

Cutting off is effected by two simultaneously operating cut-off tools, which are mounted on the front and rear cross slides.

The chamfering operation is by a tool mounted on a special slide.

The pipe to be cut off passes through a hollow spindle and is gripped by a collet chuck which rotates with the spindle.

Gripping of pipe and feeding of cut-off tools are effected hydraulically; feed of chamfering tool is by pneumatic means.

Spindle speed changes are obtained by two shifting levers; when necessary, added speed changes can be obtained with pick-off gears.

A hand-lever-operated fixture for removing burrs on the inside of the pipe is mounted on the front tool slide.

The machine is fitted with a collapsible and adjustable stock stop.

The production of the machine is as follows:

Pipe size 114 × 9.5 mm	44 pipe ends per hour
Pipe size 426 × 12 mm	20 pipe ends per hour

SPECIFICATIONS

Capacity

Distance, spindle axis to machine base, mm	1400
Distance, face of chuck to cut-off tools, mm	35 290
Distance, face of chuck to rear face of spindle, mm	2015
Range of pipe outside diameters, mm	111 126
Range of pipe lengths admitted when working with stop, mm	200 500

Cut-off Tool Slides

Number of slides	2
Maximum travel of each slide, mm	130

Speeds and Feeds

Number of spindle speeds	10
Range of spindle speeds, r. p. m.	19.4 155.2
Range of feeds of cut-off slides (infinitely variable), mm/min	5 35

Drive

220/380 volt, 3 phase, 50 cycle A. C. motors:

Main drive:	
Power, kW	14
Speed, r. p. m.	1000
Hydraulic pump:	
Power, kW	2.8
Speed, r. p. m.	1000
Coolant pump:	
Power, kW	0.15
Speed, r. p. m.	3000
Lubricating pump:	
Power, kW	0.6
Speed, r. p. m.	1000

Space Occupied

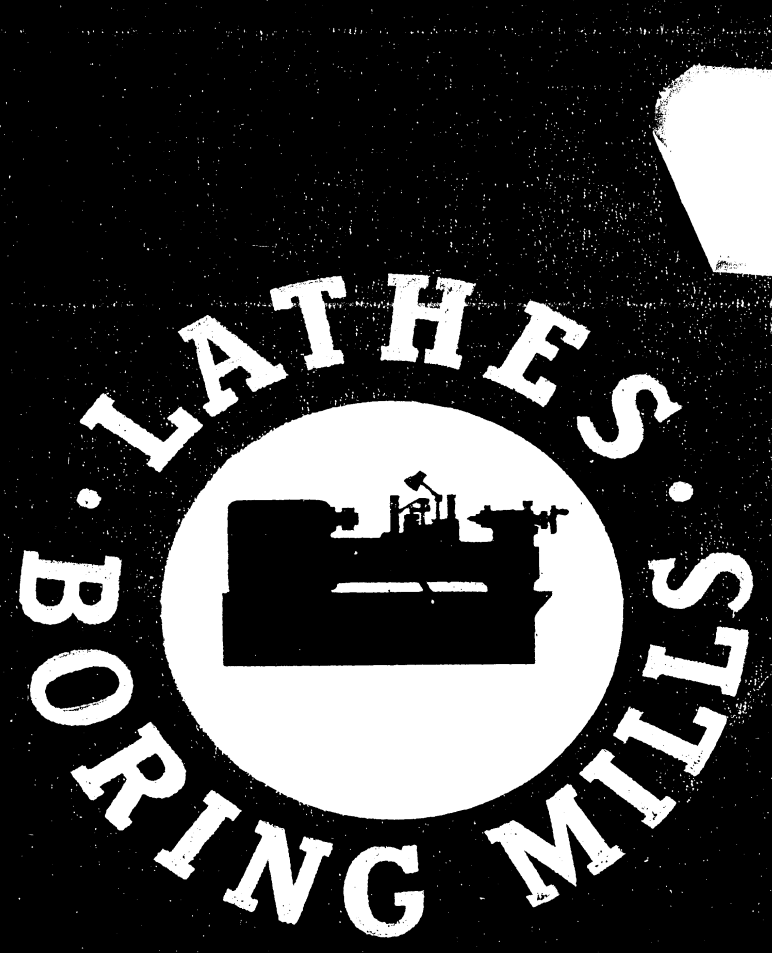
Floor space, mm	3625 × 2370
Height of machine, mm	2325

Weight

Net weight, kg	approx. 15450

Design and specifications of the machine tools illustrated herein are subject to change without notice.

Vneshtorgizdat. Order No. 343



STANKOIMPORT

LATHES
BORING MILLS

SINGLE SPINDLE BAR AUTOMATIC MACHINES

MULTIPLE SPINDLE BAR AUTOMATIC MACHINES

MULTIPLE SPINDLE AUTOMATIC CHUCKING MACHINES

TURRET LATHES

VERTICAL BORING AND TURNING MILLS

LATHES

MULTITOOL SEMI-AUTOMATIC LATHES

ROLL TURNING LATHES

RELIEVING LATHES

MULTITOOL SEMI-AUTOMATIC CRANK-SHAFT LATHES

MULTITOOL SEMI-AUTOMATIC CAMSHAFT LATHES

VSESOJUZNOJE EXPORTNO-IMPORTNOJE OBJEDINENIJE

STANKOIMPORT

U S S R MOSCOW

This catalogue contains short specifications of the most common types of machine tools exported by the Vsesojuznoje Exportno-Importnoje Objedinenije "Stankoimport".

Detailed pamphlets sent on request.

All inquiries and correspondence to be forwarded to:

Vsesojuznoje Exportno-Importnoje Objedinenije
"STANKOIMPORT"
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Moscow, USSR
For cables: Stankoimport Moscow
Phone: G4-21-32

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The Machine Tools produced in the USSR are outstanding for their high efficiency, convenience and safety in operation and long service.

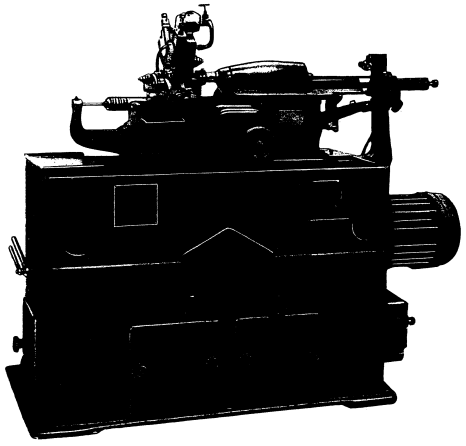
The first class material, perfect modern design and skilful workmanship provide accuracy, high efficiency and durability of the Machine Tools.

Steady improvement of machine tool design in the USSR aims at the increase of productivity, accuracy, reliability and dependability of machine in operation, as well as the reduction of operator's fatigue by improving and convenient placing of all operating controls and the all-increasing automatization of operation.

The Vsesojuznoje Exportno-Importnoje Objedinenije "Stankoimport" is able to offer a wide range of Machine Tools both universal and special types including Automatic Transfer Machines and Automatic Workshops.

SINGLE SPINDLE AUTOMATIC SCREW MACHINE

MODEL 110II



The 110II Single Spindle Automatic Screw Machine is designed for machining relatively long and slender parts from bar stock. The work is turned by a combined radial in-feed of the tools and axial feed of the rotating bar past the tools. The rotating bar is fed through the guide bushing to the tools by weight.

Five individually fed tools are carried by the stationary tool head. All movements of the headstock and tools are controlled by cams.

The cutting action, regardless of the length of the piece to be machined, always take place directly in front of the guide bushing and thus finely finished long and slender parts can be produced. One part is produced for one turn of the camshaft.

Spindle speeds and camshaft speeds are controlled by change gears.

The machine stops automatically, at the end of machining of each bar.

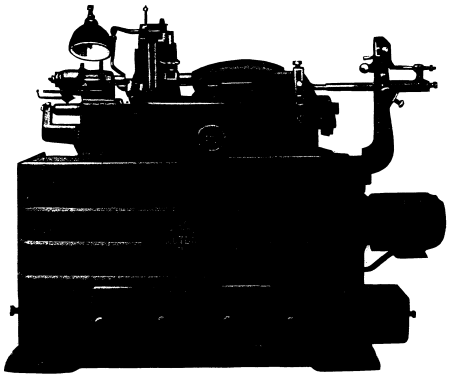
Such operations as drilling or threading are performed by the use of auxiliary attachments individually driven.

SPECIFICATIONS

Capacity	
Bar capacity, mm	7
Maximum turning length, mm	50
Maximum drill diameter, mm	4
Maximum drill depth, mm	30
Maximum threading diameter in steel, mm	5
Maximum threading length in steel, mm	30
Speeds and Feeds	
Number of spindle speeds	15
Range of spindle speeds, r.p.m.	890—6000
Range of camshaft speeds, r.p.m.	0.28—60.7
Drive	
220/380 volt, 3 phase, 50 cycle A.C. motor: power, kW	1.7
speed, r.p.m.	1500
Space Occupied	
Floor space, mm	1700×650
Height of machine, mm	1400
Weight	
Net weight, kg	approx. 1000

SINGLE SPINDLE AUTOMATIC SCREW MACHINE

MODEL 112



The 112 Single Spindle Automatic Screw Machine is designed for machining relatively long and slender parts from bar stock. The work is turned by a combined radial in-feed of the tools and axial feed of the rotating bar past the tools. The rotating bar is fed through the guide bushing to the tools by the sliding headstock.

Four individually fed tools are carried by the stationary tool head. All movements of the headstock and tools are controlled by cams. By a combination of headstock and tool movements almost any angle or form can be produced without forming tools.

The cutting action, regardless of the length of the piece to be machined, always take place directly in front of the guide bushing and thus finely finished long and slender parts can be produced. One part is produced for one turn of the camshaft.

Spindle speeds and camshaft speeds are controlled by change gears.

The machine stops automatically, at the end of machining of each bar. Should the spindle drive belt break during machine operation, a limit switch causes the machine to stop.

Such operations as drilling or threading are performed by the use of auxiliary attachments individually driven.

SPECIFICATIONS

Capacity

Bar capacity, mm:	
round (diameter)	12
square (side)	8.5
hexagon (distance between sides)	10.4
Maximum turning length (length of feed), mm:	
with bell cam	100
with plate cam	80
Maximum bar length, mm	3000—3500
Maximum drill diameter, mm	8
Maximum drill depth, mm	30
Threading diameter in brass, mm:	
minimum	3
maximum	8
Maximum threading diameter in steel, mm	6

Cross Slides

Number of cross slides:	
rocker operated	2
radially operated	2
Distance from the rocker operated tool bit side to the spindle nose, mm:	
minimum	1
maximum	5
Distance from the radially operated tool bit side to the spindle nose, mm:	
minimum	1
maximum	5

Speeds and Range of Production

Number of spindle speeds	16
Range of spindle speeds, r.p.m.	800—7670
Number of camshaft speeds for each spindle speed	44
Nominal number of camshaft speeds	704
Range of machine production, parts per minute	0.1—32
Range of production cycles, sec	2—600

Drive

220/380 volt, 3 phase, 50 cycle A.C. motor:	
power, kW	2.2
speeds, r.p.m.	1500

Space Occupied

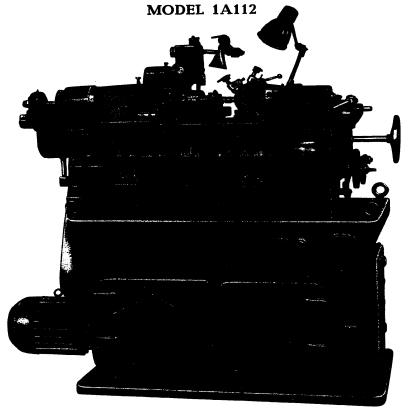
Floor space, mm	1410×570
Height of machine, mm	1500

Weight

Net weight, kg	approx. 1450

SINGLE SPINDLE BAR AUTOMATIC MACHINE

MODEL 1A112



The 1A112 Single Spindle Bar Automatic Machine is designed for machining of relatively complicated parts from bar which require a series of successive operations such as turning, boring, internal and external threading, etc., and for machining by means of form tools.

The machine is particularly adapted for lot and mass production.

Cutting tools are mounted in six positions of hexagon turret and on front, rear and vertical slides. Besides milling, drilling and other attachments can be mounted on the machine.

Machine set-up for producing of different parts is accomplished by means of change cams.

SPECIFICATIONS

Capacity

Bar capacity, mm:	
round (diameter)	12
hexagon (distance between sides)	10
square (side)	9
Maximum bar feed, mm	60
Maximum turning length, mm	50
Maximum diameter of thread cut, mm:	
in steel	8
in brass	10

Slides and Turret Head

Number of slides	3
Maximum cross traverse of slide, mm	32
Diameter of turret head, mm	100
Maximum traverse of turret head, mm	50
Distance, end of spindle to turret head, mm:	
minimum	65
maximum	135

Speeds and Feeds

Number of spindle speeds	16
Range of spindle speeds, r.p.m.:	
turning	1090—5040
thread cutting	183—860
Range of camshaft speeds, r.p.m.	0.33—30
Range of production cycles, sec.	2—180

Drive

220/380 volt, 3 phase, 50 cycle A.C. motor:	
power, kW	2.8
speed, r.p.m.	1500

Space Occupied

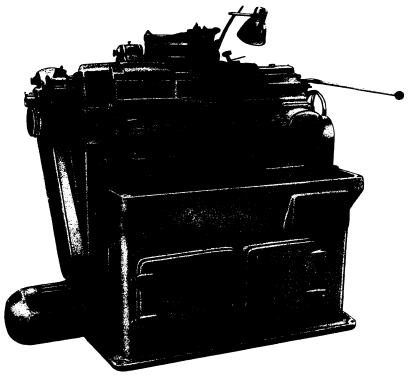
Floor space, mm	1540×625
Height of machine, mm	1355

Weight

Net weight, kg	approx. 950

SINGLE SPINDLE BAR AUTOMATIC MACHINE

MODEL 1A118



The 1A118 Single Spindle Bar Automatic Machine is designed for machining of relatively complicated parts from bar which require a series of successive operations such as turning, boring, internal and external threading, etc., and for machining by means of form tools.

The machine is particularly adapted for lot and mass production.

Cutting tools are mounted in six positions of hexagon turret and on front, rear and vertical slides. Besides milling, drilling and other attachments can be mounted on the machine.

Machine set-up for producing of different parts is accomplished by means of change cams.

SPECIFICATIONS

Capacity

Bar capacity, mm:	
round (diameter)	18
hexagon (distance between sides)	15
square (side)	13
Maximum bar feed, mm	60
Maximum turning length, mm	50
Maximum diameter of thread cut, mm:	
in steel	10
in brass	12

Slides and Turret Head

Number of slides	3
Maximum cross traverse of slide, mm	32
Diameter of turret head, mm	100
Maximum traverse of turret head, mm	50

Speeds and Feeds

Number of spindle speeds	16
Range of spindle speed, r.p.m.:	
turning	866—4024
thread cutting	146—684
Range of camshaft speeds, r.p.m.	0.33—20
Range of production cycles, sec.	3—180

Drive

220/380 volt, 3 phase, 50 cycle A.C. motor:	
power, kW	2.8
speed, r.p.m.	1500

Space Occupied

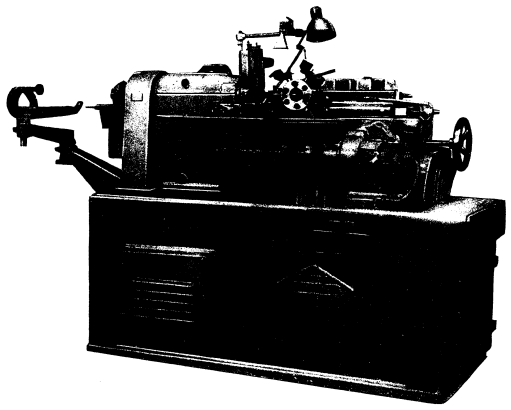
Floor space, mm	1540×625
Height of machine, mm	1355

Weight

Net weight, kg	approx. 950

SINGLE SPINDLE BAR AUTOMATIC MACHINE

MODEL 1A124



The 1A124 Single Spindle Bar Automatic Machine is designed for machining relatively complicated parts from bar which require a series of successive operations such as turning, boring, internal and external threading, etc., and for machining by means of form tools. The machine is particularly adapted for lot and mass production.

Cutting tools are mounted in six positions of hexagon turret and on front, rear and vertical slides.

Spindle of the machine is driven by a direct current motor. Speed of spindle is infinitely variable. Electrical control of spindle speeds makes possible changing of speed and direction of spindle rotation at each turret indexing.

Mechanisms of bar feeding and clamping, indexing of the turret head, rotation of camshaft and coolant pump are driven from a separate electric motor.

Machine set-up for producing of different parts is accomplished by means of change cams.

SPECIFICATIONS

Capacity

Bar capacity, mm:	
round (diameter)	25
hexagon (distance between sides), mm	20
square (side)	17
Maximum bar feed, mm	90
Maximum turning length, mm	80
Maximum diameter of thread cut, mm:	
in steel	18
in brass	22

Slides and Turret Head

Number of slides	3
Maximum cross traverse of slide, mm	40
Diameter of turret head, mm	140
Maximum traverse of turret head, mm	80
Distance, end of spindle to turret head, mm:	
minimum	64
maximum	180

Speeds and Feeds

Range of infinitely variable spindle speeds, r.p.m.	110—2800
Range of camshaft speeds, r.p.m.	0.125—7.4

Drive

Direct current electrical motor:	
power, kW	4.2
speed, r.p.m.	2200

Space Occupied

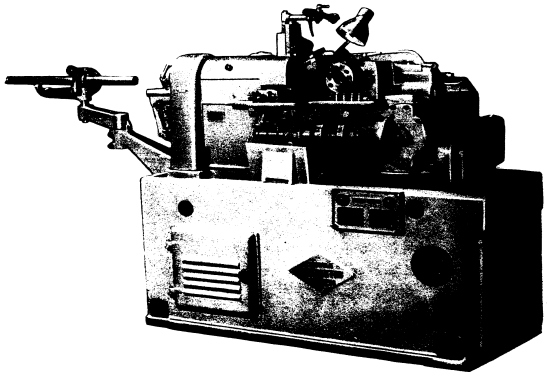
Floor space, mm	2000×800
Height of machine, mm	1500

Weight

Net weight, kg	approx. 2000

SINGLE SPINDLE BAR AUTOMATIC MACHINE

MODEL 1A136



The 1A136 Single Spindle Bar Automatic Machine is designed for machining relatively complicated parts from bar which require a series of successive operations such as turning, boring, internal and external threading etc., and for machining by means of form tools. The machine is particularly adapted for lot and mass production.

Cutting tools are mounted in six positions of hexagon turret and on front, rear and vertical slides.

Spindle of the machine is driven by a direct current motor. Speed of spindle is infinitely variable. Electrical control of spindle speeds makes possible changing of speed and direction of spindle rotation at each turret indexing.

Mechanisms of bar feeding and clamping, indexing of the turret head, rotation of camshaft and coolant pump are driven from a separate electric motor.

Machine set-up for producing of different parts is accomplished by means of change cams.

SPECIFICATIONS

Capacity

Bar capacity, mm:	
round (diameter)	36
hexagon (distance between sides), mm	30
square (side)	25
Maximum bar feed, mm	90
Maximum turning length, mm	80
Maximum diameter of thread cut, mm:	
in steel	22
in brass	27

Slides and Turret Head

Number of slides	3
Maximum cross traverse of slide, mm	40
Diameter of turret head, mm	140
Maximum traverse of turret head, mm	80
Distance, end of spindle to turret head, mm:	
minimum	64
maximum	180

Speeds and Feeds

Range of infinitely variable spindle speed, r.p.m.	100—2000
Range of camshaft speeds, r.p.m.	0.125—5.2

Drive

Direct current electrical motor:	
power, kW	4.2
speed, r.p.m.	2200

Space Occupied

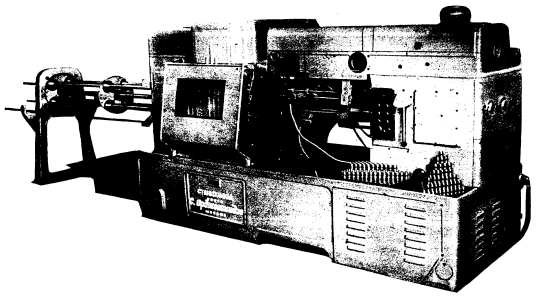
Floor space, mm	2000×800
Height of machine, mm	1500

Weight

Net weight, kg	approx. 2000

FOUR SPINDLE BAR AUTOMATIC MACHINE

MODEL 1240-4



The 1240-4 Bar Automatic Machine is designed for machining parts from metal bars which require a series of successive operations such as turning, drilling, reaming, threading, facing, cutting-off, etc. The work is machined simultaneously in the four spindles of the rotary spindle block.

The cutting tools are clamped in toolholders, and in the fixtures mounted in four positions of the main tool slide and on the four cross slides. The attachment for high speed drilling can be arranged in any of the positions.

The speeds of work and tool spindles are selected through change gears.

The feeds of the main tool slide and cross tool slides, as well as the fixtures with independent feeds are also selected through change gears.

The length of main slide travel and the travel of the fixtures with independent feeds can be varied by regulating the quadrant linkage mechanism without changing cams.

Cross slides travel can be varied by regulating the quadrant linkage mechanism and by using four changeable cams.

The machine operates on an automatic cycle, comprising: rapid approach of tool slides to work spindles, feeds of tool slides, rapid return of tool slides, indexing of spindle block, swinging of stock-stop to working position, feed of stock to stock-stop and gripping of stock. One revolution of the camshaft corresponds to the machining of one work piece.

The machine has a special electric drive for reducing the speed of the camshaft during setting-up operations.

Chips are removed from the bed of the machine by means of a screw chip conveyor.

SPECIFICATIONS

Capacity

Maximum bar capacity, mm:	
round (diameter)	40
square (side)	27
hexagon (distance between sides)	32
Maximum stock feed, mm	190
Maximum length of bar, mm	4000

Main Tool Slide

Travel of main slide, mm:	
working feed	10—80
rapid travel:	
standard	80
by special order	120
total travel:	
standard	90—160
by special order	130—200

Cross Tool Slides

Number of cross slides	4
Minimum and maximum travel of cross slides, mm:	
working feed	0—22
total travel	31—60

Fixture with Independent Feed

Number of fixtures with independent feed (Set in positions III and IV)	2
Minimum and maximum travel of fixtures with independent feed, mm:	
working feed	0—105
rapid travel	95—118
total travel	95—223

Tool Spindles

Number of thread cutting spindles (Set in positions III and IV)	2

Speeds and Feeds

Number of work spindle speeds	24
Range of work spindle speeds, r.p.m.	156—2120

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:	
Main drive:	
power, kW	up to 20
speed, r.p.m.	1500
Camshaft rotation drive during setting-up:	
power, kW	1.7
speed, r.p.m.	1000
Conveyor drive:	
power, kW	0.6
speed, r.p.m.	1500

Space Occupied

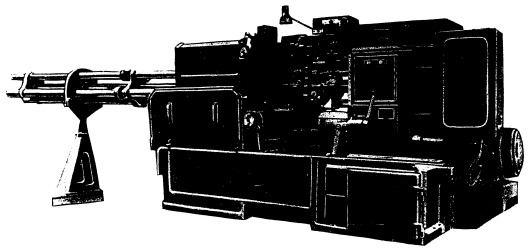
Floor space, mm	5685×1350
Height of machine, mm	1960

Weight

Net weight, kg	approx. 8700

FOUR SPINDLE BAR AUTOMATIC MACHINE

MODEL 1262M



The 1262M Four Spindle Bar Automatic Machine is designed for machining parts from metal bars which require a series of successive operations such as turning, drilling, reaming, threading, facing, cutting-off, etc.

The machine is particularly adapted for lot and mass production.

Bars of stock are loaded into each of four spindles and all tools in the successive positions are at work on different bars at the same time.

Cutting tools are clamped in toolholders or attachments mounted in four positions of main tool slide and on four cross slides.

Work spindles are mounted in the spindle carrier which indexes in the headstock frame.

Spindle speeds are selective through speed change gears.

Feeds of the main tool slide and cross slides as well as independent attachments feed are selective through feed change gears and cams.

The machine is completely automatic in its operation: rapid approach of the tool slides to the work spindles, slides feeding, rapid return to the starting positions, indexing of the spindle carrier, stock feeding and clamping are performed automatically. Indexing, stock feeding, and noncutting toolslide movements and all other idle movements are performed at high speed.

Machine automatic lubricating system is interlocked with the start of the main drive motor. On special order the machine may be set up for producing parts in accordance with the customer's drawings and technical conditions.

SPECIFICATIONS

Capacity

Maximum bar capacity, mm:	
round (diameter)	50*)
hexagon (distance between sides)	43
square (side)	35
Diameter of hole in spindle, mm	76
Maximum bar length, mm	3600
Maximum length of turning, mm	150
Maximum stock feed, mm	160
Maximum length of stock left, mm	80
Diameter of thread cut, mm:	
minimum	4
maximum	40

Slides

Maximum travel of main tool slide, mm	152
Maximum travel of cross slides, mm:	
first position	60
second position	60
third position	88
fourth position	60

Speeds and Range of Production

Number of work spindle speeds (obtained through change gears)	33
Range of work spindle speeds, r.p.m.:	
standard	88—1015
on special order	140—1620

Drive

220/380 volt, 3 phase, 50 cycle, A.C. motors:

Main drive:	
power, kW	14
speed, r.p.m.	1000
Coolant pump:	
power, kW	0.65
speed, r.p.m.	3000

Space Occupied

Floor space, mm	5665×1200
Height of machine, mm	1855

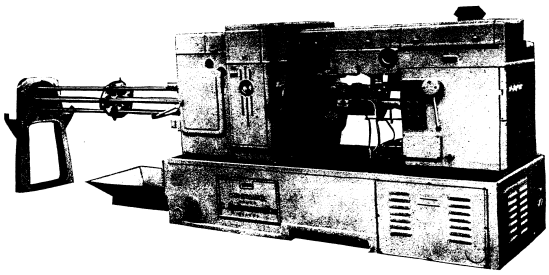
Weight

Net weight, kg	approx. 6800

*) On special order machine may be supplied for maximum bar diameter of 58 mm

SIX SPINDLE BAR AUTOMATIC MACHINE

MODEL 1240-6



The 1240-6 Bar Automatic Machine is designed for machining parts from metal bars which require a series of successive operations such as turning, drilling, reaming, threading, facing, cutting-off, etc. The work is machined simultaneously in the six spindles of the rotary spindle block.

The cutting tools are clamped in toolholders, and in the fixtures mounted in six positions of the main tool slide and on the six cross slides. The attachment for high speed drilling can be arranged in any of the positions.

The speeds of work and tool spindles are selected through change gears.

The feeds of the main tool slide and cross tool slides, as well as the fixtures with independent feeds are also selected through change gears.

The length of main slide travel and the travel of the fixtures with independent feeds can be varied by regulating the quadrant linkage mechanism without changing cams.

Cross slides travel can be varied by regulating the quadrant linkage mechanism and by using four changeable cams.

The machine operates on an automatic cycle, comprising: rapid approach of tool slides to work spindles, feeds of tool slides, rapid return of tool slides, indexing of spindle block, swinging of stock-stop to working position, feed of stock to stock-stop and gripping of stock.

One revolution of the camshaft corresponds to the machining of one work piece.

The machine has a special electric drive for reducing the speed of the camshaft during setting-up operations.

Chips are removed from the bed of the machine by means of a screw chip conveyor.

SPECIFICATIONS

Capacity

Maximum bar capacity, mm:
- round (diameter) 40
- square (side) 27
- hexagon (distance between sides) 32

Maximum stock feed, mm 190
Maximum length of bar, mm 4000

Main Tool Slide

Travel of main slide, mm:
- working feed ..... 10—80
- rapid travel:
  - standard 80
  - by special order 120
- total travel:
  - standard ..... 90—160
  - by special order ..... 130—200

Cross Tool Slides

Number of cross slides 6
Minimum and maximum travel of cross slides, mm:
- working feed ..... 0—22
- total travel ..... 31—60

Fixture with Independent Feed

Number of fixtures with independent feed (Set in positions V and VI) .. 2

Maximum and minimum travel of fixtures with independent feed, mm:
- working feed ..... 0—105
- rapid travel ..... 95—118
- total travel ..... 95—223

Tool Spindles

Number of thread cutting spindles (Set in positions V and VI) 2

Speeds and Feeds

Number of work spindle speeds 24
Range of work spindle speeds, r.p.m. ..... 156—2120

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:
- Main drive:
  - power, kW ..... up to 20
  - speed, r.p.m. 1500
- Camshaft rotation drive during setting-up:
  - power, kW 1.7
  - speed, r.p.m. 1000
- Conveyor drive:
  - power, kW 0.6
  - speed, r.p.m. 1500

Space Occupied

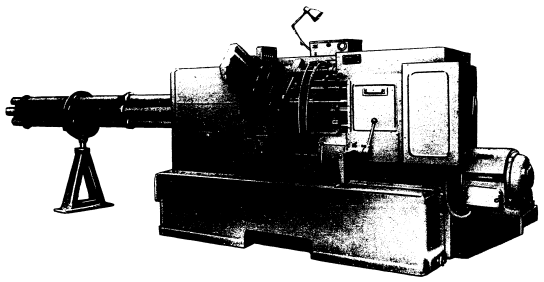
Floor space, mm ..... 5685×1350
Height of machine, mm 1960

Weight

Net weight, kg ..... approx. 9000

SIX SPINDLE BAR AUTOMATIC MACHINE

MODEL 1261M



The 1261M Six Spindle Bar Automatic Machine is designed for machining parts from metal bars which require a series of successive operations such as turning, drilling, reaming, threading, facing, cutting-off, etc. The machine is particularly adapted for lot and mass production.

Bars of stock are loaded into each of six spindles and all the tools in the successive positions are at work on different bars at the same time.

Cutting tools are clamped in toolholders or attachments mounted in six positions of main tool slide and on four cross slides. Work spindles are mounted in the spindle carrier which indexes in the headstock frame.

Spindle speeds are selective through speed change gears.

Feeds of the main tool slide and cross slides as well as independent attachments feed are selective through feed change gears and cams.

The machine is completely automatic in its operation: rapid approach of the tool slides to the work spindles, slides feeding, rapid return to the starting positions, indexing of the spindle carrier, stock feeding and clamping are performed automatically.

Indexing, stock feeding, and non-cutting tool slide movements and all other idle movements are performed at high speed. Machine automatic lubricating system is interlocked with main drive motor start. Regularly the machine is supplied with a set of accessories.

On special order the machine may be set up for producing parts in accordance with the customer's drawings and technical conditions.

SPECIFICATIONS

Capacity

Maximum bar capacity, mm:	
round (diameter)	50*)
hexagon (distance between sides)	43
square (side)	35
Diameter of hole in spindle, mm	76
Maximum bar length, mm	3600
Maximum length of turning, mm	150
Maximum stock feed, mm	160
Minimum length of stock left, mm	80
Diameter of thread cut, mm:	
minimum	4
maximum	40

Slides

Maximum travel of main tool slide, mm	152
Maximum travel of cross slides, mm:	
first position	60
third position	60
fourth position	88
fifth and sixth positions	60

Speeds and Range of Production

Number of work spindle speeds (obtained through change gears)	33
Range of work spindle speeds, r.p.m.:	
standard	88—1015
on special order	140—1620
Range of camshaft speeds at working stroke, r.p.m.	0.069—14

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:

Main drive:	
power, kW	14
speed, r.p.m.	1000
Coolant pump:	
power, kW	0.65
speed, r.p.m.	3000

Space Occupied

Floor space, mm	5665×1200
Height of machine, mm	1855

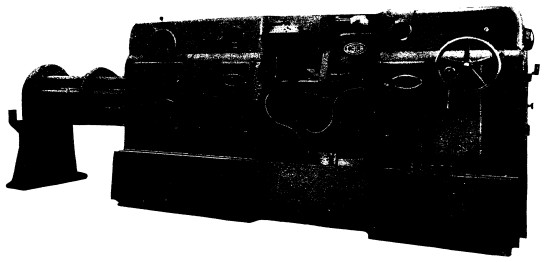
Weight

Net weight, kg	approx. 7000

*) On special order machine may be supplied for maximum bar diameter of 58 mm.

SIX SPINDLE BAR AUTOMATIC MACHINE

MODEL 1265



The 1265 Six Spindle Bar Automatic Machine is designed for machining parts from all kinds of metal bars and tubes which require a series of successive operations such as turning, drilling, reaming, threading, facing, cutting-off, etc. The machine is specially adapted for lot and mass production.

Bars of stock are loaded into each of six spindles and all the tools in the successive positions are at work on different bars at the same time.

Cutting tools are clamped in toolholders or attachments mounted in six positions of main tool slide and on six cross slides.

Work spindles are mounted in the spindle carrier which indexes in the headstock frame.

Spindle speeds are selective through one speed operating lever and change gears.

Feeds of the main tool slide and cross slides as well as independent attachments feed are selective through feed change gears and cams.

The machine is completely automatic in its operation: rapid approach of the tool slides to work spindles, slides feeding, rapid return to the starting positions, indexing of the spindle carrier, stock feeding and clamping are performed automatically. Indexing, stock feeding, and non-cutting toolslide movements and all other idle movements are performed at high speed.

Machine automatic lubricating system is interlocked with the start of the main drive motor.

Regularly the machine is supplied with a set of cams, toolholders, change gears and threading and high speed drilling attachments. On special order the machine may be set up for producing of parts in accordance with the customer's drawings and technical conditions.

SPECIFICATIONS

Capacity

Maximum bar diameter, mm	65
Diameter of hole in spindle, mm	90
Maximum bar length, mm	3000
Maximum stock feed, mm	200
Diameter of thread cut, mm:	
minimum	6
maximum	36

Slides

Number of slides:	
main tool slides	1
cross slides	6
Maximum travel of cross slides, mm:	
upper slides	90
lower slides	80
intermediate slides	70

Speeds

Number of work spindle speeds (obtained through change gears)	27
Range of work spindle speeds, r.p.m.	79.5—1600

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:	
Main drive:	
power, kW	28
speed, r.p.m.	1500
Machine setting-up drive:	
power, kW	1.7
speed, r.p.m.	1000
Coolant pump:	
power, kW	0.65
speed, r.p.m.	3000

Space Occupied

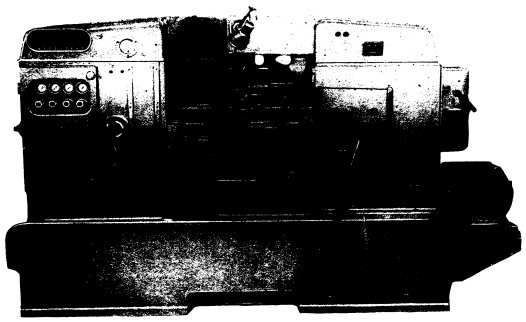
Floor space, mm	5270×1520
Height of machine, mm	2070

Weight

Net weight, kg	approx. 13000

FOUR SPINDLE AUTOMATIC CHUCKING MACHINE

MODEL 1262П



The 1262П Four Spindle Automatic Chucking Machine is designed for machining parts which require a series of successive operations (such as turning, boring, facing, drilling, reaming, threading, etc.) and made of castings and forgings. The machine is particularly adapted for lot and mass production.

Castings or forgings are loaded into each of four spindles and all tools in the successive positions are at work on different castings at the same time.

Cutting tools are clamped in toolholders, or attachments mounted in four positions of main tool slide and on four cross slides.

Spindle speeds are selective through speed change gears.

Feeds of the main tool slide and cross slides are selective through feed change gears and cams.

The machine is completely automatic in its working cycle. After finishing its part each spindle is stopped at loading position for loading of a new part. Loading and unloading is done by hand. Clamping of parts is effected hydraulically. Each chuck is operated independently. Start of the main drive motor is interlocked with the hydraulic and lubrication systems.

Regularly the machine is supplied for machining of parts of 50—100 mm in diameter, up to 120 mm in length and having external or internal thread with 1.5 mm pitch. Threading attachment and high speed drilling attachment are supplied with machine.

SPECIFICATIONS

Capacity

Maximum diameter of work machined, mm 130
Maximum length of machining, mm .. 120
Maximum diameter of work clamped in chuck, mm 130

Slides

Maximum travel of main tool slide, mm 135
Number of cross slides 4
Maximum travel of cross slides, mm:
lower slides 60
upper slides 90

Speeds and Feeds

Number of work spindle speeds (obtained through change gears) 36
Range of work spindle speeds, r.p.m. ..... 65—955

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:
Main drive:
power, kW 14
speed, r.p.m. 750
Hydraulic pump:
power, kW 1.7
speed, r.p.m. 1000
Coolant pump:
power, kW 0.65
speed, r.p.m. 3000

Space Occupied

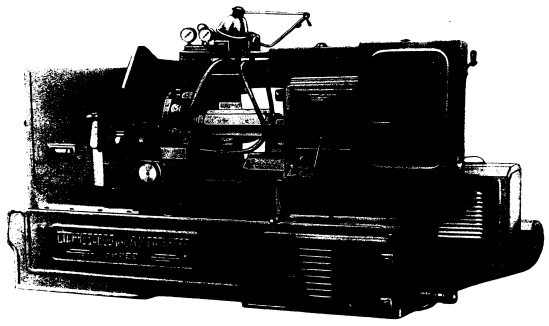
Floor space, mm ..... 3070×1440
Height of machine, mm 1850

Weight

Net weight, kg ..... approx. 7850

SIX SPINDLE AUTOMATIC CHUCKING MACHINE

MODEL 1261П



The 1261П Automatic Chucking Machine is designed for machining parts from forgings and castings, requiring a series of successive operations such as turning, facing, boring, drilling, cutting threads, etc. The machine is particularly adapted for lot and mass production. The work is machined simultaneously in the six spindles of the rotary spindle block.

The cutting tools are clamped in the toolholders, mounted in six positions of the main tool slide and on the three cross slides.

Speeds of the work and tool spindles are selected through change gears. Feeds of the longitudinal and cross slides are selected through change gears and cams.

The machine operates on an automatic cycle, comprising: rapid approach of tool slides to the work spindles, feed of tool slides, rapid return of tool slides, indexing of spindle block and stop. The work pieces are loaded and unloaded in the machine by hand. Clamping the work is by hydraulical means.

The hydraulic system and automatic lubrication are interlocked with the starting of the main electric motor.

Thread cutting and high speed drilling attachments are supplied with the machine.

SPECIFICATIONS

Capacity

Maximum diameter of work that can be machined, mm	130
Maximum length of work that can be machined, mm	120
Maximum diameter of work that can be held in chuck, mm	100

Tool Slides

Number of main slides	1
Number of cross slides	3
Maximum travel of main slide, mm	135
Maximum travel of cross slides, mm:	
first position	60
third position	60
fourth position	88

Speeds and Feeds

Number of work spindle speeds (obtained through change gears)	36
Range of work spindle speeds, r.p.m.	65—955

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:	
Main drive:	
power, kW	14
speed, r.p.m.	750
Hydraulic pump:	
power, kW	1.7
speed, r.p.m.	1000
Coolant pump:	
power, kW	0.65
speed, r.p.m.	3000

Space Occupied

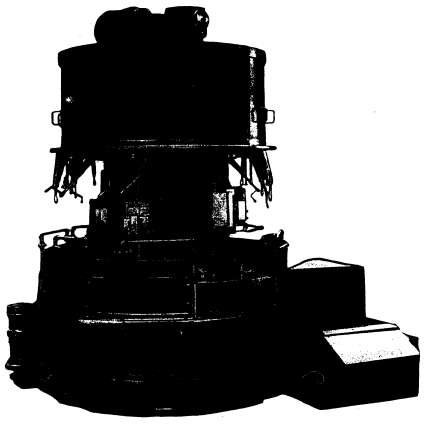
Floor space, mm	3070×1440
Height of machine, mm	1755

Weight

Net weight, kg	approx. 6940

VERTICAL SIX SPINDLE AUTOMATIC CHUCKING LATHE

MODEL 1A283



The 1A283 Automatic Lathe is designed for machining parts (in a chuck or in a special fixture) requiring a series of successive operations such as cylindrical and taper turning, facing, boring, drilling, counterboring and reaming, etc. performed in sequence and simultaneously with the loading and unloading of work. The machine is particularly adapted for lot and mass production.

Machining is performed on five work stations of the spindles; the sixth spindle station serves for loading and unloading of work machined.

Spindle speeds and feeds of tool heads are set-up for each position independently, by change gears.

Rapid approach of tool heads (cutting tools) to the work, feed and rapid return of tool heads, indexing of table, engaging and disengaging of friction clutch for cycle repeating, are performed automatically.

The machine is equipped with three electric motors.

SPECIFICATIONS

Capacity

Distance from the face of spindle to the face of the tool slide, mm:	
minimum	220
maximum	570
Nominal diameter of work that can be machined, mm	300
Maximum length of turning, mm	200
Maximum radius of facing, mm	100

Tool Heads

Number of tool heads	5
Maximum summary (vertical and horizontal) travel of tool head, mm	200

Plain Vertical Tool Head

Maximum vertical travel, mm	200

Compound Tool Head

Vertical travel, mm:	
minimum	100
maximum	200
Maximum horizontal travel of tool slide, mm	100

Universal Tool Head

Maximum swivel	360°
Vertical travel, mm:	
minimum	100
maximum	200
Maximum horizontal travel of tool slide, mm	100

Speeds and Feeds

Number of spindle speeds	23
Range of spindle speeds, r.p.m.	26—233
Note: By means of a special device spindle speeds can be lowered.	
Range of horizontal and vertical feeds of tool heads, mm per revolution of spindle	0.133—5.78
Time of table indexing from one station to the next, sec.	3.4

Drill Head

Range of spindle speeds, r.p.m.	13—1075

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:	
Main drive:	
power, kW	20
speed, r.p.m.	1500
Lubricating pump:	
power, kW	1
speed, r.p.m.	1500
Coolant pump:	
power, kW	1
speed, r.p.m.	1500

Space Occupied

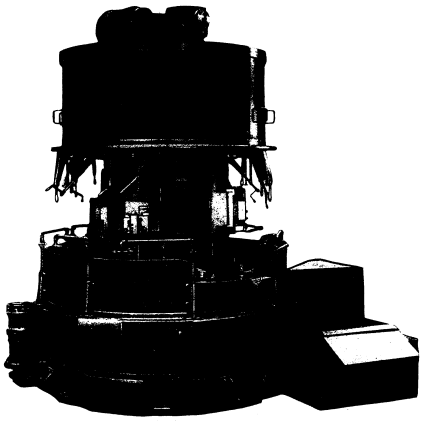
Floor space, mm	2895×2720
Height of machine, mm	3695

Weight

Net weight, kg	approx. 13250

VERTICAL SIX SPINDLE AUTOMATIC CHUCKING LATHE

MODEL 1284



The 1284 Automatic Lathe is designed for machining parts (in a chuck or in a special fixture) requiring a series of successive operations such as cylindrical and taper turning, boring, facing, drilling, counterboring and reaming, etc. performed in sequence and simultaneously with the loading and unloading of work. The machine is particularly adapted for lot and mass production.

Machining is performed on five work stations of the spindles; the sixth spindle station serves for loading and unloading of work machined.

Spindle speeds and feeds of tool heads are set-up for each position independently by change gears.

Rapid approach of tool heads (cutting tools) to the work, feed and rapid

return of tool heads, indexing of table engaging and disengaging of friction clutch for cycle repeating are performed automatically.

The machine is equipped with three electric motors.

SPECIFICATIONS

Capacity

Distance from the face of spindle to the face of the tool slide, mm:	
minimum	200
maximum	550
Nominal diameter of work that can be machined, mm	400
Maximum length of turning, mm	200
Maximum radius of facing, mm	100

Tool Heads

Number of tool heads	5
Maximum summary (vertical and horizontal) travel of tool head, mm	200

Plain Vertical Tool Head

Maximum vertical travel, mm	200

Compound Tool Head

Vertical travel, mm:	
minimum	100
maximum	200
Maximum horizontal travel of tool slide, mm	100

Universal Tool Head

Maximum swivel	360°
Vertical travel, mm:	
minimum	100
maximum	200
Maximum horizontal travel of tool slide, mm	100

Speeds and Feeds

Number of spindle speeds	23
Range of spindle speeds, r.p.m.	21—184
Note: By means of a special device spindle speeds can be lowered.	
Range of horizontal and vertical feeds of tool heads, mm per revolution of spindle	0.168—7.3
Time of table indexing from one station to the next, sec.	3.4

Drill Head

Range of spindle speeds, r.p.m.	14—1110

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:	
Main drive:	
power, kW	20
speed, r.p.m.	1500
Lubricating pump:	
power, kW	1
speed, r.p.m.	1500
Coolant pump:	
power, kW	1
speed, r.p.m.	1500

Space Occupied

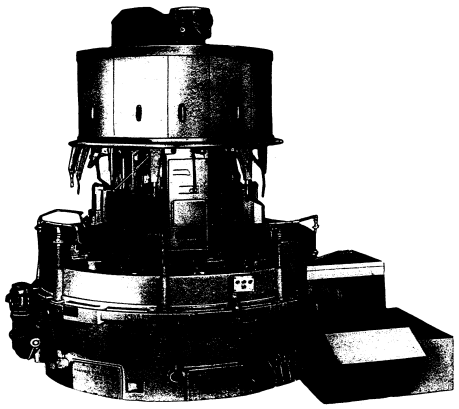
Floor space, mm	3150×2985
Height of machine, mm	3695

Weight

Net weight, kg	approx. 14470

VERTICAL EIGHT SPINDLE AUTOMATIC CHUCKING LATHE

MODEL 1282



The 1282 Automatic Lathe is designed for machining parts which require a series of successive operations such as boring, turning, facing, grooving, drilling, etc. performed in sequence and simultaneously with the loading and unloading of work. The machine is particularly adopted for lot and mass production.

The parts to be machined are held either in chuck or in other work-holding fixture. Eight spindles are mounted on the rotatable table. All operations are performed on seven work stations; the eight station is for loading and unloading of work machined. Tool carrying heads are mounted on the upper portion of the column.

By means of change gears variable and independent spindle speeds may be obtained at each work station as well as independent and variable feeds for each tool head.

Rapid approach of tool heads to cutting position, feed, rapid return to starting positions, indexing of the table and its spindles from one station to the next, engaging and disengaging of friction clutch for cycle repeating are performed automatically.

The machine is equipped with three motors.

SPECIFICATIONS

Capacity

Distance from the face of the spindle to the face of the tool slide, mm:	
minimum	220
maximum	570
Normal diameter of work that can be machined, mm	200
Maximum length of turning, mm	200
Maximum radius of face turning, mm	100

Tool Heads

Number of tool heads	7
Maximum summary (vertical and horizontal) travel of tool head, mm	200

Plain Vertical Tool Head

Maximum vertical travel, mm	200

Compound Tool Head

Vertical travel, mm:	
minimum	100
maximum	200
Maximum horizontal travel of tool slide, mm	100

Universal Tool Head

Maximum angle of swivel	360°
Vertical travel, mm:	
minimum	100
maximum	200
Maximum horizontal travel of tool slide, mm	100

Speeds and Feeds

Number of spindle speeds	23
Range of spindle speeds, r.p.m.	55.5—500*)
Range of vertical and horizontal feeds of tool head, mm per revolution of spindle	0.097—4.2
Time of table indexing from one station to the next, sec.	3.5

Drill Head

Range of drill head spindle speeds, r.p.m.	20—1650

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:	
Main drive:	
power, kW	20—28
speed, r.p.m.	1500
Lubricating pump:	
power, kW	1.0
speed, r.p.m.	1500
Coolant pump:	
power, kW	1
speed, r.p.m.	1500

Space Occupied

Floor space, mm	2888×3095
Height of machine, mm	3695

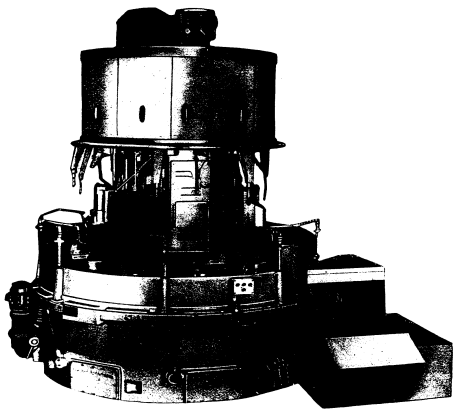
Weight

Net weight, kg	approx. 18000

*) Spindle speeds can be lowered by means of a special device.

VERTICAL EIGHT SPINDLE AUTOMATIC CHUCKING LATHE

MODEL 1284Б



The 1284Б Automatic Lathe is designed for machining (in a chuck or in a special fixture) parts requiring a series of successive operations such as cylindrical and taper turning, facing, boring, drilling, counterboring and reaming, etc. performed in sequence and simultaneously with the loading and unloading of work. The machine is particularly adapted for lot and mass production.

Machining is performed on seven work stations of the spindles; the eighth spindle station serves for loading and unloading of work machined.

Spindle speeds and feeds of tool heads are set-up for each position independently, by change gears.

Rapid approach of the tool heads (cutting tools) to the work, feed and rapid return of tool heads, indexing of table, engaging and disengaging of friction clutch for cycle repeating, are performed automatically.

The machine is equipped with three electric motors.

SPECIFICATIONS

Capacity

Distance from the face of spindle to the face of the tool slide, mm:	
minimum	196
maximum	546
Nominal diameter of work that can be machined, mm	400
Maximum length of turning, mm	200
Maximum radius of facing, mm	100

Tool Heads

Number of tool heads	7
Maximum summary (vertical and horizontal) travel of tool head, mm	200

Plain Vertical Tool Head

Maximum vertical travel, mm	200

Compound Head

Vertical travel, mm:	
minimum	100
maximum	200
Maximum horizontal travel of tool slide, mm	100

Universal Tool Head

Maximum swivel	360°
Vertical travel, mm:	
minimum	100
maximum	200
Maximum horizontal travel of tool slide, mm	100

Speeds and Feeds

Number of spindle speeds	23
Range of spindle speeds, r.p.m.	32—287
Note: By means of a special device spindle speeds can be lowered.	
Range of horizontal and vertical feeds of tool heads, mm per revolution of spindle	0.085—3.69
Time of table indexing from one station to the next, sec.	3.5

Drill Head

Range of spindle speeds, r.p.m.	20—1635

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:	
Main drive:	
power, kW	28—40
speed, r.p.m.	1500
Lubricating pump:	
power, kW	1
speed, r.p.m.	1500
Coolant pump:	
power, kW	1
speed, r.p.m.	1500

Space Occupied

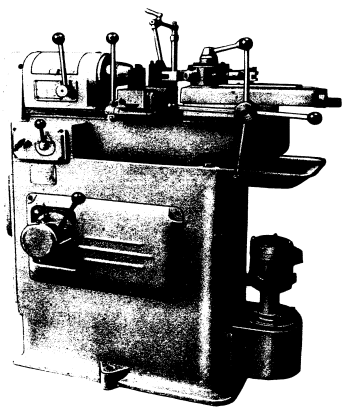
Floor space, mm	3280×3530
Height of machine, mm	3670

Weight

Net weight, kg	approx. 20000

TURRET LATHE

MODEL 1318



The 1318 Ram Type Universal Turret Lathe is designed for the rapid production of small parts from bars.

Spindle has two ranges of speeds which are obtained through the pick-off pulleys mounted on the gear box shaft. The machine is driven by an electric motor coupled directly to a speed reduction gear box mounted inside of machine base.

The bar from which the parts to be machined is clamped in a collet chuck by means of the lever mounted on the front side of the headstock. When released the bar is automatically fed up to the adjustable stock stop mounted on the turret. Feeding is effected by weights.

The turret slide and cross slide are manually operated.

SPECIFICATIONS

Capacity

Height of centers, mm	120
Distance, end of spindle to turret face, mm:	
minimum	110
maximum	220
Bar capacity, mm:	
round (diameter)	18
square (side)	12
hexagon (distance between sides)	15

Turret

Number of tool holes	6
Tool hole diameter, mm	18
Maximum longitudinal travel, mm	80

Spindle Speeds

Number of spindle speeds	8
Spindle speeds (two ranges), r.p.m.	210—1420; 397—2684

Drive

220/380 volt, 3 phase, 50 cycle A.C. motor:	
power, kW	1.7
speed, r.p.m.	1500

Space Occupied

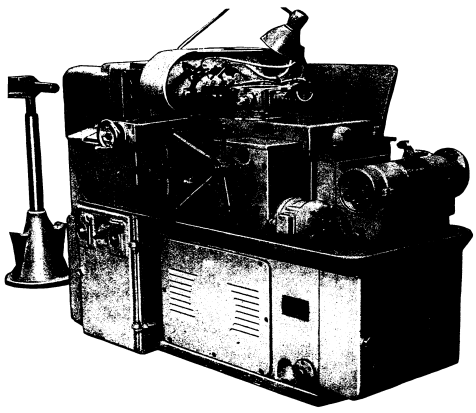
Floor space, mm	1020×500
Height of machine, mm	1350

Weight

Net weight, kg	approx. 460

AUTOMATIC TURRET LATHE

MODEL 1П318



The 1П318 Automatic Turret Lathe is designed for high production of parts from bars of various cross sections and materials, requiring a series of successive operations, such as turning, drilling, boring, reaming, threading, etc.

The cutting tools are fastened in the holders and fixtures mounted on the six turret faces, and in the tool holders of the cross slide.

The spindle speeds and turret and cross slide feeds are pre-selected and change automatically, simultaneously with the indexing of the turret by means of electro-magnetic clutches.

A separate motor controls feeding and clamping of the bar, this being effected by pressing a push-button, without stopping the machine. The turret slide has an automatic back rapid traverse accomplished by a separate electric motor.

Automatic lubrication of the principal machine units is provided by an oil pump driven by an individual motor. The same motor drives the coolant pump.

SPECIFICATIONS

Capacity

Height of centers, mm	125
Distance, end of spindle to turret face, mm:	
minimum	100
maximum	310
Diameter of hole in spindle, mm	34
Bar capacity, mm:	
round (diameter)	18
square (side)	12
hexagon (distance between sides)	16
Maximum bar feed, mm	100
Maximum diameter held in chuck, mm	130

Turret

Maximum travel of turret (by power and manually), mm	210

Cross Slide

Maximum cross travel of slide (by power and manually), mm	100

Speeds and Feeds

Number of spindle speeds	4
Range of spindle speeds, r.p.m.	200—4000
Number of turret and cross slide feeds	3
Range of turret feeds, mm per revolution of spindle	0.05—0.2
Range of cross slide feeds, mm per revolution of spindle	0.025—0.1

Drive

Power of 220/380 volt, 3 phase, 50 cycle A.C. motor, kW	2.8

Space Occupied

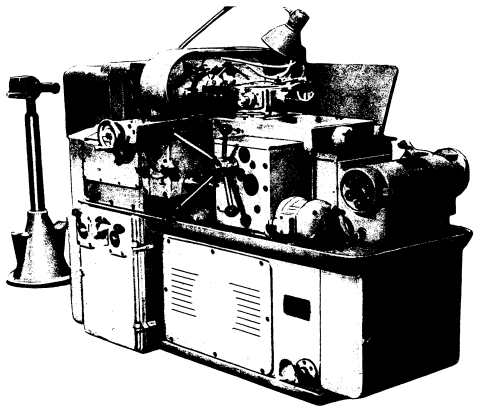
Floor space, mm	4060×945
Height of machine, mm	1270

Weight

Net weight, kg	approx. 1300

AUTOMATIC TURRET LATHE

MODEL 1П326



The 1П326 Automatic Turret Lathe is designed for high production of parts from bars of various cross sections and materials, requiring a series of successive operations such as turning, drilling, boring, reaming, threading, etc.

The cutting tools are fastened in the holders and fixtures mounted on the six turret faces and in the toolholders of the cross slide.

The spindle speeds and turret and cross slide feeds are pre-selected and change automatically, simultaneously with the indexing of the turret by means of electro-magnetic clutches.

A separate motor controls feeding and clamping of the bar, this being effected by pressing a push-button, without stopping the machine.

The turret slide has an automatic back rapid traverse accomplished by a separate electric motor.

Automatic lubrication of the principal machine units is provided by an oil pump driven by an individual motor.

The same motor drives the coolant pump.

SPECIFICATIONS

Capacity

Height of centers, mm	150
Distance, end of spindle to turret face, mm:	
minimum	127
maximum	427
Diameter of hole in spindle, mm	41
Bar capacity, mm:	
round (diameter)	25
square (side)	17
hexagon (distance between sides)	22
Maximum bar feed, mm	150
Maximum diameter held in chuck, mm	150

Turret

Maximum travel of turret (by power and manually), mm	300

Cross slide

Maximum cross travel of slide (by power and manually), mm	120

Speeds and Feeds

Number of spindle speeds	6
Range of spindle speeds, r.p.m.	200—3350
Number of turret and cross slide feeds	3
Range of turret feeds, mm per revolution of spindle	0.05—0.2
Range of cross slide feeds, mm per revolution of spindle	0.025—0.1

Drive

Power of 220/380 volt, 3 phase, 50 cycle A.C. motor, kW	4.5

Space Occupied

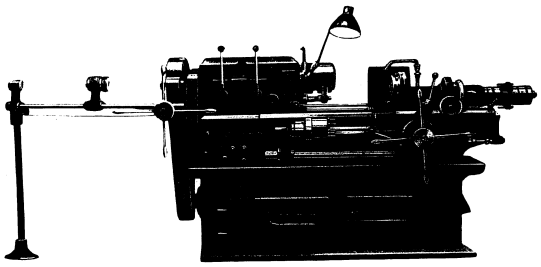
Floor space, mm	4050×940
Height of machine, mm	1300

Weight

Net weight, kg	approx. 1450

TURRET LATHE

MODEL 1336M



The 1336M Turret Lathe is designed for accurate and efficient machining parts which require a series of successive operations such as turning, drilling, boring, reaming, etc. in lot and mass production. The outstanding feature of this lathe design is its large turret, which is made to revolve around a horizontal axis instead of the usual vertical mounting, thus eliminating the customary cross slide.

The parts to be machined are held either in a collet chuck or in special chuck.

The large diameter turret provides for 16 tool positions near its circumference.

The headstock is equipped to provide 12 spindle speeds in geometric progression. The speeds are obtained through a speed gear box and change gears.

There are six longitudinal power feeds for the turret slides used for turning, drilling, reaming, etc. and six cross (circular movement of turret) feeds for the turret used for facing, cutting-off, etc. operations. The feeds are both equipped with independent overload safety devices.

The hand feed is effected by turning a handwheel.

SPECIFICATIONS

Capacity

Height of centers, mm	185
Minimum and maximum distance from face of turret to end of spindle, mm	60—660
Diameter of hole in spindle, mm	39
Bar capacity, mm:	
round (diameter)	36
square (side)	27
hexagon (distance between sides)	32
Maximum diameter of work held in chuck, mm:	
over turret slide	380
over bed ways	420

Turret

Number of tool holes	16
Maximum longitudinal travel of turret (manually and by power), mm	600
Number of adjustable stops	8

Speeds and Feeds

Number of spindle speeds	12
Range of spindle speeds, r.p.m.	48—1160
Number of longitudinal feeds of turret	6
Range of feeds of turret, mm per revolution of spindle:	
longitudinal	0.06—0.56
cross	0.04—0.39

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:	
Main drive:	
power, kW	2.8
speed, r.p.m.	1500
Coolant pump:	
power, kW	0.125
speed, r.p.m.	3000

Space Occupied

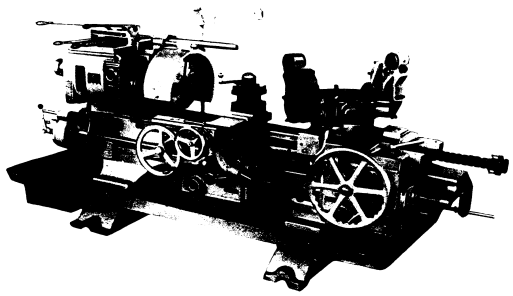
Floor space, mm	2280×1000
Height of machine, mm	1280

Weight

Net weight, kg	approx. 1500

TURRET LATHE

MODEL 1K36



The 1K36 Saddle Type Turret Lathe is designed for machining parts which require a series of successive operations such as turning, drilling, boring, reaming, threading, recessing, etc.

The parts to be machined are held either in a three-jaw chuck (hand or air operated) or in other work-holding fixtures.

The spindle has twelve speeds, both forward and reverse. The spindle speeds are obtained through a speed gear box.

The turret saddle has reversible power feed, hand travel and power rapid traverse (forward and back) with automatic disengagement at the end of the back stroke. A safety interlock prevents the feed and rapid traverse mechanisms from engaging at the same time.

A six position stop roll is automatically indexed with the hexagon turret and provides an automatic feed trip and dead stop for each face of the turret. The individual stop screws are easily adjustable. The indexing of the hexagon turret is effected manually. The feed mechanism is provided with automatic overload release.

The carriage and the cross slide are provided with reversible power feed and hand travel. Six longitudinal and two cross feed stops automatically trip the carriage and cross slide feeds respectively.

The feeds of the turret saddle, carriage and cross slide are obtained through a feed box. The cross slide has a quick indexing 4-way tool holder. Taper turning and recessing can be done with the help of fixtures.

SPECIFICATIONS

Capacity

Height of centers, mm	210
Distance, end of spindle to turret face, mm:	
minimum	260
maximum	1177
Maximum swing, mm:	
over bed ways	440
over carriage	420
over cross slide	350

Hexagon Turret

Total longitudinal travel (by power and manually), mm	917

Carriage and Cross Slide

Total longitudinal travel of carriage (by power and manually), mm	1012
Total cross travel of slide, mm	272

Speeds and Feeds

Number of spindle speeds	12
Range of spindle speeds, r.p.m.:	
forward	44—1000
reverse	43—985
Number of turret, carriage and cross slide feeds	16
Range of turret and carriage longitudinal feeds, mm per revolution of spindle	0.07—2.29
Range of cross slide feeds, mm per revolution of spindle	0.03—1.00

Drive

220/380 volt, 3 phase, 50 cycle A.C. motor:	
power, kW	10
speed, r.p.m.	1500

Space Occupied

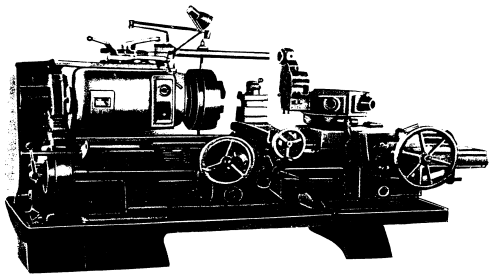
Floor space, mm	3200×1780
Height of machine, mm	1450

Weight

Net weight, kg	approx. 2870

TURRET LATHE

MODEL 1K37



The 1K37 Saddle Type Universal Turret Lathe is designed for machining parts which require a series of successive operations: turning, drilling, boring, reaming, threading, recessing, etc.

The parts to be machined are held either in a three-jaw chuck (hand or air operated) or in other work-holding fixture.

The turret is hexagon-shaped, allowing six tool position and the cross slide has a quick indexing four-way tool holder.

Change of spindle speeds are obtained through a headstock. Spindle has forward and reverse rotation.

Feeds of turret slide and cross slide are obtained through the use of feed boxes mounted in aprons.

The turret saddle has reversible power feed and power rapid traverse (forward and reverse) with automatic disengagement at the end of the back stroke.

A safety interlocking device prevents the feed and rapid traverse mechanisms from engagement at the same time.

Six stops synchronized with the six turret stations operate automatically with indexing of the turret and provide an automatic feed trip and dead stop for each face of the turret. The feed mechanism is equipped with an overload safety device.

Indexing of the turret is effected by hand.

The carriage and the cross slide are provided with reversible power feed.

Six longitudinal and two cross stops automatically trip the carriage and cross slide feeds respectively. Taper turning and recessing can be done with the help of fixtures.

The machine is motor driven.

SPECIFICATIONS

Capacity

Height of centers, mm	250
Distance between spindle flange and turret face, mm:	
minimum	250
maximum	1290
Swing over bed ways, mm	550
Swing over carriage, mm	520
Swing over cross slide, mm	450

Turret

Number of tool holes	6
Tool hole diameter, mm	95
Maximum longitudinal travel (hand and power), mm	1040

Cross Slide

Maximum travel (hand and power), mm:	
longitudinal	1200
cross	307

Speeds and Feeds

Number of spindle speeds	12
Range of spindle speeds, r.p.m.:	
forward rotation	29—800
reverse rotation	32—872
Range of turret longitudinal feed, mm per revolution of spindle	0.07—2.29
Range of cross slide feeds, mm per revolution of spindle:	
longitudinal	0.07—2.29
cross	0.03—1.00

Drive

220/380 volt, 3 phase, 50 cycle A.C. motor:	
power, kW	14
speed, r.p.m.	1500

Space Occupied

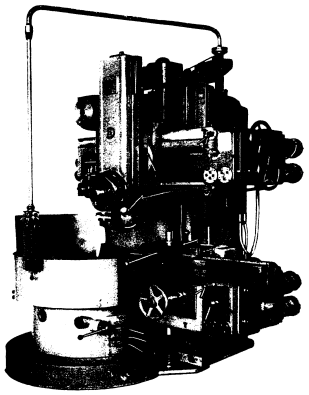
Floor space, mm	3390×1875
Height of machine, mm	1450

Weight

Net weight, kg	approx. 3650

SINGLE COLUMN VERTICAL BORING AND TURNING MILL

MODEL 1531



The 1531 Vertical Boring and Turning Mill is designed for machining parts which require a series of successive operations, such as turning, boring, facing, drilling, reaming, etc.

The parts to be machined are held in a four-jaw chuck or in work-holding fixtures mounted on the table.

The machine is provided with one vertical head and one side head in which the cutting tools are fastened.

The vertical head can be traversed horizontally along the rail ways, the rail being raised or lowered on the machine column ways.

The vertical head has a pentagon shaped indexing turret mounted on a ram and can be swivelled to an angle of 45°.

The side head is fitted with a square block indexing turret and has a vertical traverse on the column.

The machine is provided with eight motors. The table speeds and the

vertical and horizontal feeds of the heads are obtained through a speed gear box and feed boxes.

Starting and stopping table rotation is effected by means of a friction clutch and a braking device.

The feed mechanisms are equipped with overload safety and interlocking devices.

The horizontal and vertical travel of the heads are effected both by power and manually.

Control of the machine is accomplished by a pendant push-button station with duplicate control of rapid traverse and feeds, arranged on the feed gear boxes.

SPECIFICATIONS

Capacity

Diameter of table, mm	1120
Distance, table top to rail head, mm:	
minimum	0
maximum	1250
Distance, table top to rail, mm:	
minimum	400
maximum	1250
Maximum diameter which can be turned, mm:	
by vertical head	1250
by side head	1120
Height of work admitted, mm	1000
Weight of work admitted, kg	2500
Maximum length turned by side head, mm	700
Diameter of work held in table jaw chuck, mm:	
minimum	100
maximum	1050

Vertical Head

Maximum travel of vertical head (by power and manually), mm:	
horizontal	840
vertical	700
Maximum swivel of vertical head	45°

Side Head

Maximum travel of side head (by power and manually), mm:	
horizontal	520
vertical	960

Speeds and Feeds

Number of table speeds	18
Range of table speeds, r.p.m.	6.3—315
Number of feeds of vertical and side heads	8
Range of vertical and side head feeds, mm/min.	3.15—180
Rapid power traverse of heads, m/min.	2.3
Rapid power traverse of rail, m/min.	0.5

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:

Main drive:	
power, kW	28
speed, r.p.m.	1500
Rapid traverse (4 motors):	
power, kW	1.0
speed, r.p.m.	1500
Rail elevating:	
power, kW	1.7
speed, r.p.m.	1000
Feed drive (2 motors):	
power, kW	1.0
speed, r.p.m.	1500

Space Occupied

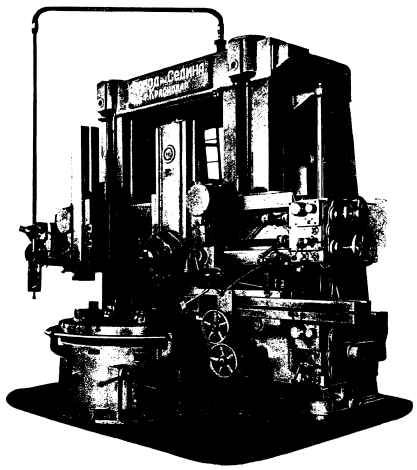
Floor space, mm	3000×2440
Height of machine, mm	3380

Weight

Net weight, kg	approx. 12000

DOUBLE COLUMN VERTICAL BORING AND TURNING MILL

MODEL 1551



The 1551 Vertical Boring and Turning Mill is designed for machining parts which require a series of successive operations, such as turning, boring, facing, drilling, reaming, etc.

The parts to be machined are held in a four-jaw chuck or in work-holding fixtures mounted on the table.

The machine is provided with two vertical heads and one side head in which the cutting tools are fastened.

The vertical heads can be traversed horizontally along the rail ways, the rail being raised or lowered on the ways of the machine columns. The left-hand rail head is fitted with a square block toolholder and can be swivelled to an angle of 40°.

The right-hand rail head has a pentagon shaped indexing turret mounted on a vertical ram.

The side head is fitted with a square block indexing turret, allowing four tool positions. The side head has a vertical traverse on the right-hand column of the machine.

The table speeds and the vertical and horizontal feeds of the heads are obtained through a speed gear box and feed boxes.

A single lever selects the feeds required.

The horizontal and vertical travel of the heads are effected both by power and manually. Rapid traverse of rail and heads for positioning purposes are also provided.

Clamping and unclamping the rail is accomplished automatically by a separate motor.

The feed mechanisms are equipped with overload safety and interlocking devices.

The machine is supplied with nine motors.

SPECIFICATIONS

Capacity

Diameter of table, mm	1400
Distance, table top to rail heads, mm:	
minimum	0
maximum	1510
Distance, table top to rail, mm:	
minimum	250
maximum	1360
Diameter of work admitted, mm	1650
Height of work admitted, mm	1250
Maximum diameter which can be turned, mm:	
by rail heads	1650
by side head	1500
Weight of work admitted, kg	5000
Maximum taper turned	40°
Diameter of work held in table jaw chuck, mm:	
minimum	100
maximum	1400

Rail Heads

Maximum travel of rail heads (by power and manually), mm:	
left-hand head:	
horizontal	890
vertical	950
right-hand head:	
horizontal	990
vertical	865
Maximum swivel of left-hand rail head	40°

Side Head

Maximum travel of side head (by power and manually), mm:	
horizontal	600
vertical	1230

Speeds and Feeds

Number of table speeds	18
Range of table speeds, r.p.m.	2—70
Number of feeds (rail and side heads)	12
Range of horizontal and vertical feeds, mm per revolution of table	0.2—9
Speed of rapid traverse of heads, m/min.	3
Speed of rapid traverse of rail, m/min.	0.4

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:	
Main drive:	
power, kW	28
speed, r.p.m.	1000
Feed and rapid traverse of heads (6 motors):	
power, kW	1.7
speed, r.p.m.	1500
Rapid traverse of rail:	
power, kW	7
speed, r.p.m.	750
Rail clamping:	
power, kW	1.7
speed, r.p.m.	1500

Space Occupied

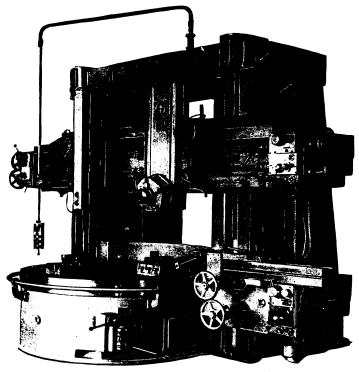
Floor space, mm	4495×4800
Height of machine, mm	4080

Weight

Net weight, kg	approx. 28000

DOUBLE COLUMN VERTICAL BORING AND TURNING MILL

MODEL 1553



The 1553 Vertical Boring and Turning Mill is a heavy duty machine designed for turning and boring cylindrical and tapered surfaces as well as for facing large size work pieces.

The parts to be machined are held in a four-jaw chuck or in work-holding fixtures mounted on the table.

The machine is provided with two vertical heads and one side head in which the cutting tools are fastened.

The vertical heads can be traversed horizontally along the rail ways, the rail being raised or lowered on the ways of the machine columns. The left-hand rail head is fitted with a square block toolholder. The right-hand rail head has a pentagon shaped indexing turret mounted on a vertical ram.

The side head is fitted with a square block indexing turret, allowing four tool positions. The side head has a vertical traverse on the right-hand column of the machine.

All the heads are provided with automatic feeds and rapid power traverse in all directions. Rapid power traverse of rail is also provided.

Clamping and unclamping the rail is accomplished automatically by a separate motor.

The feed mechanisms are equipped with overload safety and interlocking devices.

SPECIFICATIONS

Capacity

Diameter of table, mm	2100
Distance, table top to rail heads, mm:	
minimum	0
maximum	1800
Distance, table top to rail, mm:	
minimum	250
maximum	1650
Maximum diameter which can be turned, mm:	
by rail heads	2300
by side head	2100
Height of work admitted, mm	1600
Weight of work admitted, kg	7000
Diameter of work held in table jaw chuck, mm:	
minimum	100
maximum	2100

Rail Heads

Maximum travel of rail heads, mm:	
left-hand head:	
horizontal	1215
vertical	950
right-hand head:	
horizontal	1315
vertical	865
Maximum swivel of left-hand rail head	40°

Side Head

Maximum travel of side head (by power or manually), mm:	
horizontal	600
vertical	1520

Speeds and Feeds

Number of table speeds	18
Range of table speeds, r.p.m.	1.4—48
Number of feeds (rail and side heads)	12
Range of vertical and horizontal feeds, mm per revolution of table	0.2—9
Rapid traverse speed, mm/min.:	
heads—vertical and horizontal	3
rail—vertical	0.4

Drive

220/380 volt, 3 phase, 50 cycle A. C. motors:

Main drive:	
power, kW	40
speed, r.p.m.	1000
Feed and rapid traverse of heads (6 motors):	
power, kW	1.7
speed, r.p.m.	1500
Rapid traverse of rail:	
power, kW	7
speed, r.p.m.	750
Rail clamping:	
power, kW	1.7
speed, r.p.m.	1500

Space Occupied

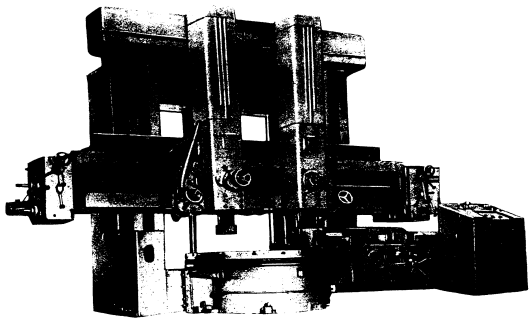
Floor space, mm	4345×5460
Height of machine, mm	4480

Weight

Net weight, kg	approx. 34000

VERTICAL BORING AND TURNING MILL

MODEL 1556



The 1556 Vertical Boring and Turning Mill is a universal machine designed for turning, boring, facing, angle turning and cutting of English and Metric threads.

The machine is equipped with two vertical ram heads on a movable rail and one side head on a right-hand upright.

Table speeds and head feeds are selective through sliding gears of headstock and feed boxes.

Changes of table speed are made from easily accessible control panel through hydraulic mechanism.

The table is equipped with device for reducing the load on the bed ways and electro-hydraulically controlled brake.

On special order the machine may be supplied with angle turning attachments, thread cutting attachments, changeable turret head.

SPECIFICATIONS

Capacity

Diameter of table, mm 2250
Maximum diameter of work which can be turned, mm:
with side head 2500
without side head 2700
Maximum height of work admitted (from table surface), mm 1600
Maximum weight of work admitted, kg 14000

Cross Rail

Maximum travel of rail (power), mm 1500

Vertical Ram Heads

Minimum distance between ram axis, mm 450
Maximum travel of ram, mm:
horizontal 1630
vertical 950

Side Head

Maximum travel of side head, mm:
horizontal 850
vertical 1500

Speeds and Feeds

Number of table speeds 18
Range of table speeds, r.p.m. ..... 0.95—47.5
Rapid traverse of rail, mm/min. 425
Rapid traverse of vertical heads, mm/min. 2200
Rapid traverse of side head, mm/min. 2200

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:
Main drive:
power, kW 40
speed, r.p.m. 1500
Rapid traverse of heads:
power, kW 2.8
speed, r.p.m. 3000
Rail traverse:
power, kW 7.0
speed, r.p.m. 1500
Rail clamping:
power, kW 2.8
speed, r.p.m. 1500

Space Occupied

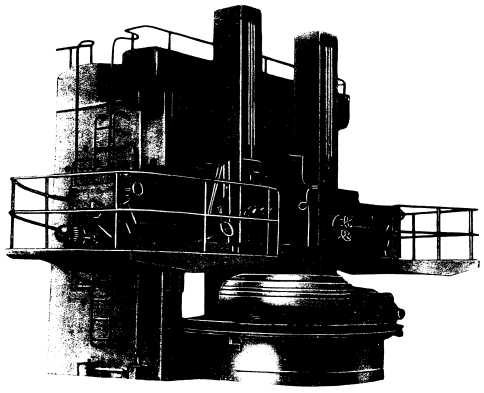
Floor space, mm ..... 3600×6900
Height of machine, mm 5600

Weight

Net weight, kg ..... approx. 47200

VERTICAL BORING AND TURNING MILL

MODEL 1532



The 1532 Vertical Boring and Turning Mill is a universal machine designed for turning, boring, facing, angle turning and cutting of English and Metric threads.

The machine is equipped with two vertical ram heads on a movable rail and one side head on a right-hand upright.

Table speeds and head feeds are selective through sliding gears of headstock and feed boxes.

Changes of table speed are made from easily accessible control panel through hydraulic mechanism.

The table is equipped with device for reducing the load on the bed ways and electro-hydraulically controlled brake.

On special order the thread cutting and angle turning attachments are available.

SPECIFICATIONS

Capacity

Diameter of table, mm	3080
Maximum diameter of work which can be turned, mm:	
with side head	3200
without side head	3400
Maximum height of work admitted (from table surface), mm	2000
Maximum weight of work admitted, kg	20000

Cross Rail

Maximum travel of rail (power), mm	1450

Vertical Ram Heads

Minimum distance between ram axis, mm	670
Maximum travel of ram, mm:	
horizontal	2000
vertical	1500

Side Head

Maximum travel of side head, mm:	
horizontal	850
vertical	1450

Speeds and Feeds

Number of table speeds	18
Range of table speeds, r.p.m.	0.6—31
Rapid traverse of rail, mm/min.	425
Rapid traverse of vertical heads, mm/min.	2200
Rapid traverse of side head, mm/min.	2200

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:

Main drive:	
power, kW	55
speed, r.p.m.	1500
Rapid traverse of heads:	
power, kW	2.8
speed, r.p.m.	3000
Rapid traverse of rail:	
power, kW	10
speed, r.p.m.	1500
Rail clamping:	
power, kW	2.8
speed, r.p.m.	1500

Space Occupied

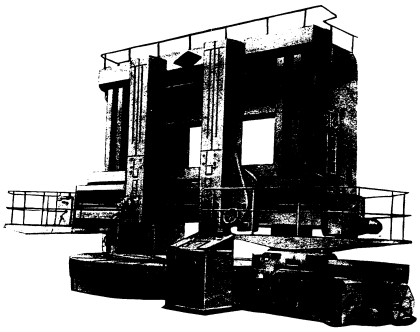
Floor space, mm	5900×8950
Height of machine, mm	7000

Weight

Net weight, kg	approx. 70000

VERTICAL BORING AND TURNING MILL

MODEL 1565



The 1565 Vertical Boring and Turning Mill is a universal machine designed for turning, boring, facing, angle turning and cutting of English and Metric threads. The machine is equipped with two vertical ram heads on a movable rail and one side head on a right-hand upright.

Table speeds and head feeds are selective through sliding gears of headstock and feed boxes. Changes of table speed are made from easily accessible control panel through hydraulic mechanism.

The table is equipped with hydraulically controlled brake.

On special order the machine may be supplied with angle turning and thread cutting attachments.

SPECIFICATIONS

Capacity

Diameter of table, mm	4500
Maximum diameter of work which can be turned, mm:	
with side head	5000
without side head	5250
Maximum height of work admitted (from table surface), mm	3000
Maximum weight of work admitted, kg	45000

Cross Rail

Maximum vertical travel of rail (power), mm	2650

Vertical Ram Heads

Minimum distance between ram axis, mm	650
Maximum travel of ram, mm:	
horizontal	3200
vertical	1800

Side Head

Maximum travel, mm:	
horizontal	1400
vertical	2650

Speeds and Feeds

Range of table speeds (infinitely variable), r.p.m.	0.4—20.7
Rapid traverse of rail, mm/min.	300
Rapid traverse of vertical heads and rams, mm/min.	2200
Rapid traverse of side head, mm/min.	2200
Rapid traverse of side head slide, mm/min.	2800

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:

Main drive:	
power, kW	70
speed, r.p.m.	from 500 to 1500
Rapid traverse of heads:	
power, kW	4.5
speed, r.p.m.	3000
Rapid traverse of rail:	
power, kW	14
speed, r.p.m.	1500
Clamping of rail:	
power, kW	2.8
speed, r.p.m.	1500

Space Occupied

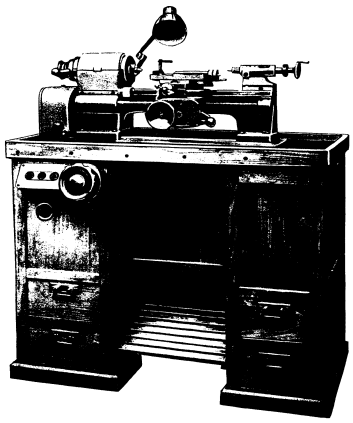
Floor space, mm	5750 · 1120
Height of machine, mm	8470

Weight

Net weight, kg	approx. 140000

PRECISION TOOL ROOM LATHE

MODEL 1602



The 1602 Tool Room Lathe is designed for miscellaneous accurate lathe work and particularly suitable for the application in the fine mechanic's industry.

The drive from the motor is transmitted to the spindle through a friction-type speed variator and a belt transmission.

The drive to the longitudinal feed is obtained through the belts to the feed gear box and the lead screw.

Feeds are selected through change gears in the feed box.

On the machine, provision is made to work to a positive stop for longitudinal power travel, as well as for hand cross travel.

The positive stop for cross slide travel is adjusted by means of a dial indicator device.

SPECIFICATIONS

Capacity

Maximum swing over bed ways, mm	130
Maximum distance between centers, mm	250
Maximum diameter that can be turned over carriage, mm	84
Bar capacity, mm:	
round stock held in chuck	13.5
round stock held in collet	8

Carriage

Maximum travel of carriage, mm:	
longitudinal	200
cross (cross slide)	85
Swivel of upper part of tool slide	90°

Spindle

Diameter of hole in spindle, mm	14
Taper hole in spindle	Morse No. 2

Tailstock

Taper hole in spindle	Morse No. 2
Maximum travel of spindle, mm	55
Setover on side, mm	±2

Speeds and Feeds

Range of spindle speeds, r.p.m.	125—2500
Number of longitudinal feeds of carriage	5
Range of feeds, mm per revolution of spindle	0.030—0.205

Drive

220/380 volt, 3 phase, 50 cycle A. C. motor (two-speed):	
power, kW	0.65
speed, r.p.m.	1500/3000

Space Occupied

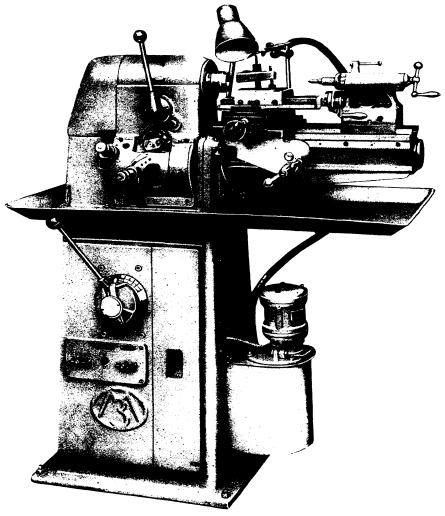
Floor space, mm	1030×665
Height of machine, mm	1260

Weight

Net weight, kg	approx. 290

PRECISION TOOL ROOM LATHE

MODEL 1613Д



The 1613Д Precision Lathe has been designed for machining work to the close tolerances required by modern industry. It is recommended for the production of many small accurate parts required in a manufacturing plant, for precision tool room work and for general machine shop use.

All general lathe- and screw-cutting operations can be performed in this machine.

Simplicity of design, high accuracy and ease of operation are its outstanding features.

The work to be machined is held either in a collet or in a chuck. The machine can be used for center type operations as well.

The spindle drive is effected by a motor mounted underneath the machine on a swinging plate. Power is transmitted from the motor two-step pulley to the speed box pulley by Vee belts. Vee belts also connect the speed box pulley with the headstock spindle. A single lever pre-selecting control allows the operator to select the next speed while the machine is in operation and then to engage it by shifting the lever. A single lever also controls the gripping and releasing action of the collet simultaneously with the starting and stopping of the machine. Both these mechanisms are interlocked.

The lead screw feeding the carriage is mounted in middle of the machine bed. Such a central arrangement of the lead screw assures a smooth movement of the carriage.

The feed box provides an ample number of feeds and threads.

SPECIFICATIONS

Capacity

Height of centers, mm	125
Distance between centers, mm	270
Swing over bed, mm	240
Swing over cross slide, mm	155
Bar capacity, mm:	
round stock held in chuck	22
round stock held in collet	14
Maximum length turned, mm	190
Number of Metric threads that can be cut	13
Threads that can be cut:	
Metric, pitch in mm	0.25—2.5

Carriage

Maximum travel of carriage, mm:	
longitudinal	190
cross	135

Spindle

Diameter of hole in spindle, mm	22
Taper hole in spindle sleeve	Morse No. 3

Tailstock

Taper hole in spindle	Morse No. 2
Maximum travel of spindle, mm	80
Setover on side, mm	±10

Speeds and Feeds

Number of spindle speeds	16
Range of spindle speeds, r.p.m.	100—2000
Number of longitudinal feeds	25
Range of longitudinal feeds, mm per revolution of spindle	0.08—2.5

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:	
Main drive:	
power, kW	1.0
speed, r.p.m.	1500
Coolant pump:	
power, kW	0.125
speed, r.p.m.	3000

Space Occupied

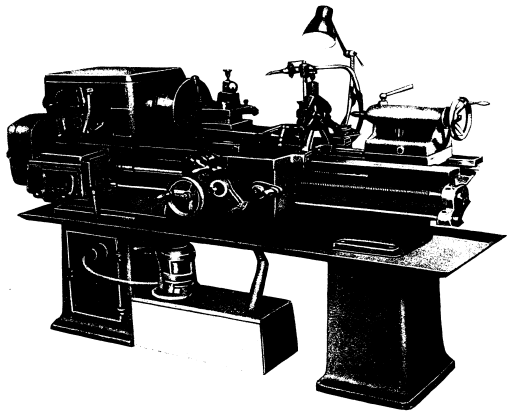
Floor space, mm	1100 · 680
Height of machine, mm	1230

Weight

Net weight, kg	approx. 470

TOOL ROOM LATHE

MODEL 1615M



The 1615M Tool Room Lathe is designed for all general lathe- and screw-cutting works.

Change of spindle speeds are obtained through a headstock. Spindle has forward and reverse rotation.

Feeds and threads are obtained through the use of the feed box and pick-off gears.

Operating feed levers are so interlocked that the lead screw and feed rod cannot both be engaged at the same time.

The machine is motor driven.

SPECIFICATIONS

Capacity

Height of centers, mm	155
Maximum distance between centers, mm	750
Bar capacity, mm	34
Maximum swing over cross slide, mm	150
Maximum swing over bed ways, mm	320
Maximum length of turning, mm	700
Threads that can be cut:	
Metric, pitch in mm	0.5—12
English, threads per inch	60—1.75
Module	0.5—6
Distance from tool bottom to center line, mm	20

Spindle

Diameter of hole in spindle, mm	35
Taper hole in spindle	Morse No. 5

Tailstock

Taper hole in spindle	Morse No. 3
Maximum travel of spindle, mm	85
Setover on side, mm	±12

Speeds and Feeds

Number of spindle speeds:	
forward rotation	8
reverse rotation	4
Range of spindle speeds, r.p.m.:	
forward rotation	44—1000
reverse rotation	244—993
Number of longitudinal and cross feeds	90
Range of feeds, mm per revolution of spindle:	
longitudinal	0.06—2.72
cross	0.025—1.1

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:	
Main drive:	
power, kW	2.8
speed, r.p.m.	1500
Coolant pump:	
power, kW	0.1
speed, r.p.m.	3000

Space Occupied

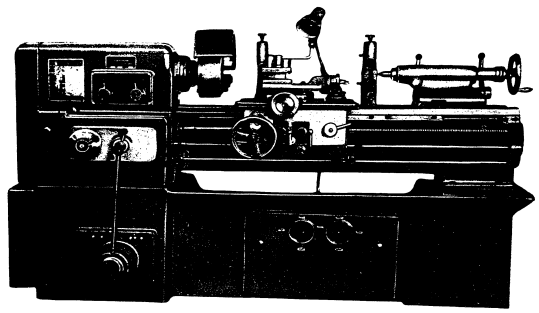
Floor space, mm	1960×920
Height of machine, mm	1145

Weight

Net weight, kg	approx. 850

TOOL ROOM LATHE

MODEL 1616



The 1616 Tool Room Lathe is designed for all general lathe- and screw-cutting works. Rigid construction, high speeds of spindle, accuracy and ease of operation are the outstanding features of this machine.

Change of spindle speeds are obtained through a gear box mounted in the base of the machine.

Spindle has forward and reverse rotation.

Feeds and threads are obtained through the use of the feed box and pick-off gears.

The apron mechanism has an interlocking device which prevents the engagement of the lead screw and the feed rod at the same time.

SPECIFICATIONS

Capacity

Height of centers, mm	160
Maximum distance between centers, mm	750
Bar capacity, mm	29
Swing over cross slide, mm	175
Swing over bed ways, mm	320
Threads that can be cut:	
Metric, pitch in mm	0.5—9
English, threads per inch.	38—2
Module	0.5—9

Carriage

Maximum travel (power or manual feed), mm:	
longitudinal	850
cross	210
Distance from tool bottom to center line, mm	20
Maximum distance from center line to the face of tool holder, mm	185
Maximum size of tool, mm	20×20

Spindle

Diameter of hole in spindle, mm	30
Taper hole in spindle	Morse No. 5

Tailstock

Taper hole in spindle	Morse No. 4
Maximum travel of spindle, mm	95
Setover on side, mm	±10

Speeds and Feeds

Number of spindle speeds (forward and reverse)	12
Range of spindle speeds, r.p.m.	44—1980
Range of feeds, mm per revolution of spindle:	
longitudinal	0.06—3.34
cross	0.044—2.46

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:	
Main drive:	
power, kW	4.5
speed, r.p.m.	1500
Coolant pump:	
power, kW	0.1
speed, r.p.m.	3000
Lubricating pump:	
power, kW	0.125
speed, r.p.m.	3000

Space Occupied

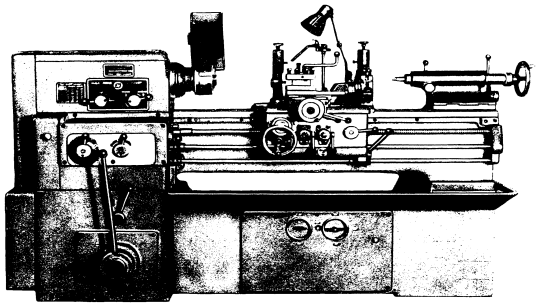
Floor space, mm	2355×850
Height of machine, mm	1275

Weight

Net weight, kg	approx. 1850

PRECISION TOOL ROOM LATHE

MODEL 1616П



The 1616П Tool Room Lathe is designed for all general lathe work, as well as for cutting Metric, English and Module threads. Simplicity of design, rigid construction, accuracy and ease of operation are the outstanding features.

Change of spindle speeds are obtained through a change speed gear box mounted in the bed and countershaft spur wheels in the headstock. Feeds and threads are obtained from the feed gear box and change gears.

For cutting accurate threads provision is made in feed gear box for direct engagement of the lead screw to the spindle through change gears only, by-passing the feed box.

The cross slide is equipped with a device for quickly withdrawing the tool from the threads when cutting.

The apron of the machine has an interlocking arrangement which prevents simultaneous engagement of feed from the lead screw and feed shaft.

SPECIFICATIONS

Capacity

Height of centers, mm	160
Maximum distance between centers, mm	750
Bar capacity, mm	29
Swing over carriage, mm	175
Swing over bed ways, mm	320
Threads that can be cut:	
Metric, pitch in mm	0.5—9
English, threads per inch.	38—2
Module	0.5—9

Carriage

Maximum travel (mechanically or by hand), mm:	
longitudinal (carriage)	850
cross (cross slide)	210
Height from tool bottom to center line, mm	20
Maximum distance from center line to edge of tool block, mm	185
Maximum size of tool, mm	20×20

Spindle

Spindle hole diameter, mm	30
Taper hole in spindle	Morse No. 5

Tailstock

Taper hole in spindle	Morse No. 4
Maximum travel of spindle, mm	95
Setover on side, mm	±10

Speeds and Feeds

Number of spindle speeds (forward and reverse)	24
Range of spindle speeds, r.p.m.	19—1415
Range of feeds, mm per revolution of spindle:	
longitudinal (carriage)	0.03—1.67
cross (cross slide)	0.02—1.24

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:

Main drive:	
power, kW	2.8
speed, r.p.m.	1500
Coolant pump:	
power, kW	0.1
speed, r.p.m.	3000
Lubricating pump:	
power, kW	0.125
speed, r.p.m.	3000

Space Occupied

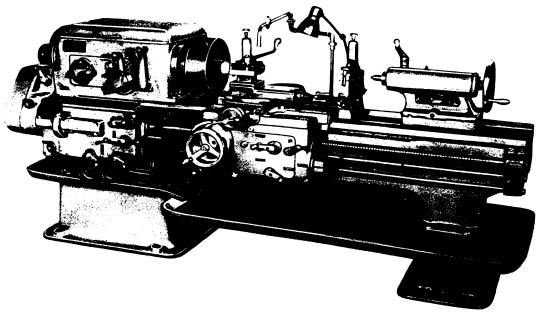
Floor space, mm	2355×850
Height of machine, mm	1275

Weight

Net weight, kg	approx. 1850

TOOL ROOM LATHE

MODEL 1A62



The 1A62 Tool Room Lathe is a universal machine designed for all general lathe- and screw-cutting works.

Rigid construction, accuracy and durability for long years of service are the outstanding features.

Change of spindle speeds are obtained through a headstock.

All feeds and threads are obtained by use of feed box and pick-off gears.

Interlocking device prevents the engagement of the lead screw and the feed rod at the same time.

The longitudinal feed, when working from the feed rod, can be tripped automatically by means of an adjustable stop.

The machine is motor driven.

SPECIFICATIONS

Capacity

Height of centers, mm	202
Maximum distance between centers, mm	750; 1000; 1500
Bar capacity, mm	36
Maximum swing over cross slide, mm	210
Maximum swing over bed ways, mm	400
Maximum length of turning (according to distance between centers), mm	650; 900; 1400
Threads that can be cut:	
Metric, pitch in mm	1—192
English, threads per inch.	24—2
Module	0.5—48
Diametral pitch	96—1

Carriage

Maximum travel (power or manual feed), mm:
- longitudinal (according to distance between centers) .. 650; 900; 1400
- cross 280

Distance from tool bottom to center line, mm 25

Maximum swivel of top slide, deg. .. ±45

Spindle

Diameter of hole in spindle, mm 38

Taper hole in spindle ..... Morse No. 5

Tailstock

Taper hole in spindle ..... Morse No. 4

Maximum travel of spindle, mm 150

Setover on side, mm ..... ±15

Speeds and Feeds

Number of spindle speeds:
- forward rotation 21
- reverse rotation 12

Range of spindle speeds, r.p.m.:
- forward rotation ..... 11.5—1200
- reverse rotation ..... 18—1520

Number of longitudinal and cross feeds 35

Range of feeds, mm per revolution of spindle:
- longitudinal ..... 0.082—1.59
- cross ..... 0.027—0.522

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:

Main drive:
- power, kW 7
- speed, r.p.m. 1500

Coolant pump:
- power, kW 0.125
- speed, r.p.m. 3000

Space Occupied

Overall length (according to distance between centers), mm .. 2510; 2650; 3170

Overall width, mm 1580

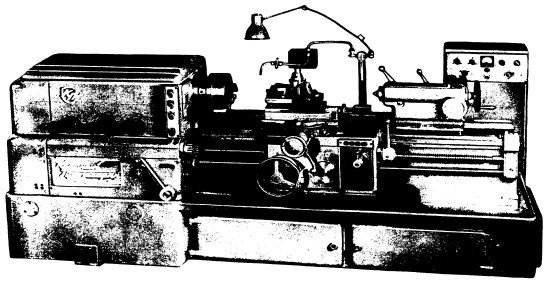
Height of machine, mm 1210

Weight

Net weight (according to distance between centers), kg ..... approx. 1930; 2000; 2105

HIGH SPEED TOOL ROOM LATHE

MODEL 1620



The 1620 High Speed Tool Room Lathe is a rigid, high power universal machine designed for general lathe- and screw-cutting work. Metric, English, Module and Diametral pitch threads left- and right-hand, single and multiple with regular and coarse pitch as well as spiral on faces can be cut on this machine.

The machine is equipped with electric copying device working from template or master work piece.

Spindle speeds are steplessly variable, change of speed being accomplished through the push-button station.

Feed box is of closed type and without change gears. Feeds are selected by turning of one knob. Carriage and slide are provided with rapid traverse in both directions.

Engaging and disengaging of slide feeds and rapid traverse are accomplished by one lever.

SPECIFICATIONS

Capacity

Maximum swing over bed, mm	400
Maximum swing over cross slide, mm	230
Maximum length of work, mm	1000
Bar capacity, mm	45
Threads that can be cut:	
Metric, pitch in mm	1—15; 16—240
English, threads per inch	30—2
Module, module in mm	0.25—3.75; 4—60
Diametral pitch	8—120; 7—1

Speeds and Feeds

Range of spindle speeds, r.p.m.	18—3000
Range of feeds, mm per revolution of spindle:	
longitudinal	0.08—1.52
cross	0.08—1.52
longitudinal (coarse feed):	
at spindle speeds 50—190 r.p.m.	1.28—5.1
at spindle speeds 190—750 r.p.m.	0.4—4.9
Rapid traverse of carriage and slides, m/min.	3.8

Drive

Power of all motors, kW	16.25

Space Occupied

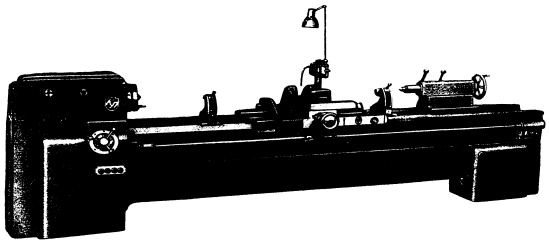
Floor space, mm	3180×1315
Height of machine, mm	1285

Weight

Net weight, kg	approx. 4000

HIGH PRECISION LEAD SCREW CUTTING LATHE

MODEL 1622



The 1622 High Precision Lathe is designed for finish cutting of high precision lead screws.

The bed of the machine is of rigid construction with diagonal ribs.

Lead screw of the machine is mounted between the bed ways and supported on anti-friction bearings.

The machine is equipped with a device provided for correcting of cycle accumulated pitch errors of the machine lead screw.

The spindle of the machine is driven by two-speed electric motor through a gear train and two Vee belt drives.

The lead screw is driven from the spindle through two pairs of change gears mounted on the spindle and lead screw ends.

The carriage has long Vee ways and is coupled with the machine lead screw through a non-split nut with the lever for the correction device. Cross and top slides are fed by hand through a feed screws.

Follow rest is mounted on the carriage.

The machine is supplied with tailstock and steady rest.

SPECIFICATIONS

Capacity

Height of centers, mm	225
Maximum distance between centers, mm	2500
Diameter of thread that can be cut, mm:	
minimum	20
maximum	85
Maximum length of thread cut, mm	2500
Pitch of Metric thread that can be cut, mm:	
minimum	3
maximum	12

Cross Slide

Maximum travel, mm:	
cross (manual feed)	75
longitudinal (power feed)	2500

Spindle

Diameter of hole in spindle, mm	22
Taper hole in spindle	Morse No. 5

Tailstock

Taper hole in spindle	Morse No. 5
Maximum travel of spindle, mm	200

Speeds

Number of spindle speeds:	
forward rotation	6
reverse rotation	6
Range of spindle speeds, r.p.m.:	
forward rotation	4—40
reverse rotation	8—80

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:	
Main drive (two-speed):	
power, kW	3/4.5
speed, r.p.m.	750/1500
Coolant pump:	
power, kW	0.125
speed, r.p.m.	3000

Space Occupied

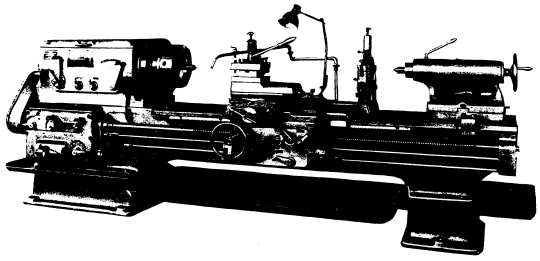
Floor space, mm	4420×1275
Height of machine, mm	1250

Weight

Net weight, kg	approx. 3300

ENGINE LATHE

MODEL 1Д63A



The 1Д63A Engine Lathe is designed for all general lathe- and screw-cutting works.

Change of spindle speeds are obtained through a headstock. Spindle has forward and reverse rotation and mechanical brake.

Feeds and threads are obtained through the use of the feed box and pick-off gears.

There is a safety device preventing any breakage in the feed mechanism due to overloading.

The longitudinal feed, when working from the feed rod, can be tripped automatically by means of an adjustable stop.

The operating levers on the apron are so interlocked that the lead-screw, longitudinal or cross feeds cannot be engaged at the same time.

The machine is motor driven.

SPECIFICATIONS

Capacity

Height of centers, mm	300
Maximum distance between centers, mm	1500; 3000
Bar capacity, mm	68
Maximum swing over cross slide, mm	345
Maximum swing over bed ways, mm	615
Maximum length of turning (according to distance between centers), mm	1310; 2810
Threads that can be cut:	
Metric, pitch in mm	1—224
English, threads per inch	28—2
Module	0.25—56

Carriage

Maximum longitudinal travel (according to distance between centers), mm:	
power feed	1310; 2810
manual feed	1510; 3010

Maximum cross travel (power and manual) mm 390
Distance from tool bottom to center line, mm 32.5

Compound Rest

Maximum travel of tool slide, mm .. 200
Maximum angle of swivel, deg. ..... ±60

Spindle

Diameter of hole in spindle, mm 70
Taper hole in spindle ..... Metric 80
Taper hole in spindle sleeve .. Morse No. 5

Tailstock

Taper hole in spindle ..... Morse No. 5
Maximum travel of spindle, mm 205
Setover on side, mm ..... ±15

Speeds and Feeds

Number of spindle speeds 18
Range of spindle speeds, r.p.m.:
forward ..... 14—750
reverse ..... 22—945
Number of longitudinal and cross feeds 26
Range of feeds, mm per revolution of spindle:
longitudinal ..... 0.15—2.65
cross ..... 0.05—0.9

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:
Main drive:
power, kW 10
speed, r.p.m. 1500
Coolant pump:
power, kW 0.125
speed, r.p.m. 3000

Space Occupied

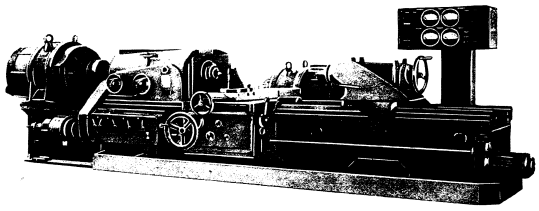
Overall length (according to distance between centers), mm 3610; 5110
Overall width, mm 1690
Height of machine, mm 1275

Weight

Net weight (according to distance between centers), kg .. approx. 3330; 3980

LABORATORY LATHE

MODEL JI220



The JI220 Laboratory Lathe has been designed for the research in the field of the dynamics of cutting as well as for carrying out life tests on carbide tipped tools.

The machine has ample drive power and is provided with wide ranges of speeds and feeds.

The machine is equipped with suitable instruments for measuring the cutting forces, surface speeds, feeds and the non-uniformity of the machine run. This allows to carry out tests on speeds and feeds which secure a full utilization of the cutting properties of tools to be tested.

SPECIFICATIONS

Capacity

Height of centers, mm 350
Distance between centers, mm 1500
Maximum swing, mm:
over cross slide 400
over bed ways 700
over gap 1000

Carriage and Tailstock

Maximum travel, mm:
carriage 470
tailstock spindle 150

Speeds and Feeds

Range of spindle speeds, r.p.m. .. 21—1500
Range of feeds, mm per revolution of spindle:
longitudinal ..... 0.08—4
cross ..... 0.04—2

Drive

D.C. motors:
power range of main drive motor, kW ..... 29—115
power of feed drive motor, kW 4.4
power of rapid traverse motor, kW 2.8

Space Occupied

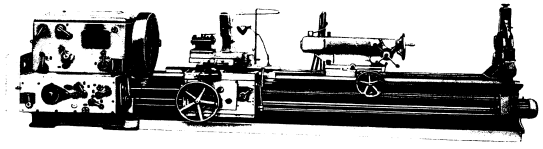
Floor space, mm ..... 6000×2000
Height of machine, mm 1600

Weight

Net weight, kg ..... approx. 15000

ENGINE LATHE

MODEL 1A64



The 1A64 Engine Lathe is of the universal type and is designed for a wide variety of lathe work and for cutting Metric, English and Module threads.

The feed gear box is of the enclosed type and provides for cutting all standard threads without change gears.

For cutting accurate threads provision is made for directly engaging the lead screw, by-passing the feed gear box. The machine has rapid travel of the carriage and cross slide.

To special order, the machine can be equipped with an electrical profiling device for machining irregular contours using a work piece or template as a master.

SPECIFICATIONS

Capacity

Height of centers, mm	400
Maximum distance between centers, mm	3000
Maximum swing over bed ways, mm	800
Maximum diameter that can be turned over carriage, mm	450
Threads that can be cut:	
Metric, pitch in mm	1—120
English, threads per inch	28—0.25
Module	0.5—30

Carriage

Maximum longitudinal travel (power and manual), mm	3000
Maximum cross travel (power and manual), mm	610
Distance from tool bottom to center line, mm	45

Compound Rest

Maximum travel of tool slide, mm	240
Maximum angle of swivel, deg.	180

Spindle

Diameter of hole in spindle, mm	95
Taper of hole in spindle	1 : 20
Taper hole in spindle sleeve	Morse No. 6

Tailstock

Taper hole in spindle	Morse No. 5
Maximum travel of spindle, mm	300
Setover on side, mm	±15

Speeds and Feeds

Number of spindle speeds	24
Range of spindle speeds, r.p.m.	7.1—750
Number of longitudinal and cross feeds	32

Range of feeds per revolution of spindles, mm:
- longitudinal ..... 0.2—3.05
- cross slide ..... 0.7—1.04

Rapid traverse, m/min.:
- carriage 2.85
- cross slide 1.15

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:

Main drive:
- power, kW 20
- speed, r.p.m. 1500

Rapid traverse drive:
- power, kW 1.7
- speed, r.p.m. 1500

Coolant pump:
- power, kW 0.15
- speed, r.p.m. 3000

Space Occupied

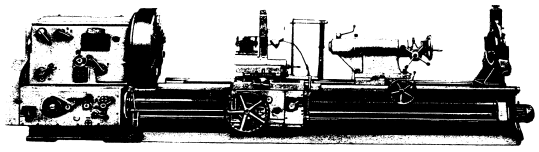
Floor space, mm ..... 6280×2000
Height of machine, mm 1660

Weight

Net weight, kg ..... approx. 11700

ENGINE LATHE

MODEL 165



The 165 Engine Lathe is designed for all general lathe work and for cutting Metric, English and Module threads.

The spindle is driven from an individual electric motor through Vee belts and the change speed gear box.

Change of spindle speeds are obtained through a headstock.

The feed gear box is enclosed and provides for cutting all standard thread without change gears.

For cutting accurate threads provision is made for engaging the lead screw to the change gear train by-passing the speed gear box.

The machine is equipped with rapid power traverse to both the cross slide and carriage.

SPECIFICATIONS

Capacity

Maximum swing over bed ways, mm 1600
Maximum distance between centers, mm 3000
Maximum diameter that can be turned over carriage, mm 650
Threads that can be cut:
- Metric, pitch in mm ..... 1—120
- English, threads per inch .. 30—0.25
- Module ..... 0.5—60

Speeds and Feeds

Number of spindle speeds 24
Range of spindle speeds, r.p.m. ..... 5—500

Range of feeds, mm per revolution of spindle:
- longitudinal ..... 0.204—3.05
- cross ..... 0.069—1.038

Rapid traverse, m/min.:
- carriage 2.3
- cross slide 0.8

Drive

Power of electric motor, kW 28

Space Occupied

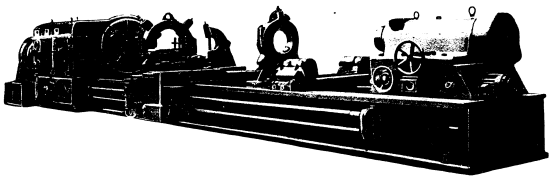
Floor space ..... 6255×2280
Height of machine, mm 1760

Weight

Net weight, kg ..... approx. 12500

ENGINE LATHE

MODEL 1660



The 1660 Engine Lathe is designed for all general lathe work, as well as for cutting threads. Machining is performed by cutting tools, fastened in the tool head of the cross slide.

Longitudinal and cross feeds are obtained from the feed gear box. Metric, English and Module threads are obtained through the use of the feed gear box and lead screw without change gears.

The longitudinal travel of the carriage is engaged and disengaged by a clutch on the feed shaft.

Spindle speeds are varied by regulating the D.C. variable-speed electric motor of the main drive and by means of the change speed gear box, arranged in the headstock. Speeds are changed by hydraulic means.

The tailstock is equipped with a live center.

The carriages and tailstock are provided with rapid power traverse from separate electric motors.

The machine has push-button controls.

SPECIFICATIONS

Capacity

Height of center, mm	650
Maximum distance between centers, mm	6300
Maximum swing over bed ways, mm	1250
Maximum diameter that can be turned, mm:	
over carriage	950
over bed	1250
Maximum length of turning, mm	6300
Threads that can be cut:	
Metric, pitch in mm	1—60
English, threads per inch	30—0.5
Module	0.25—15
Range of external tapers that can be turned	0.001—0.06
Maximum weight of work piece, tons	30

Carriages

Number of carriages	1
Standard size of tool shank, mm	40×60
Swivel of tool slide	±45°

Steady Rests

Range of work diameters accommodated, mm:	
open	600—950
closed	150—350

closed ..... 350—600
semi-closed ..... 100—200

Speeds and Feeds

Range of spindle speeds, r.p.m. .. 3.15—200
Number of longitudinal and cross feeds 48
Range of feeds, mm per revolution of spindle:
longitudinal (carriage) .. 0.19—11.4
cross (cross slide) ..... 0.075—4.5
Rapid traverse of carriage, m/min. .. 3

Drive

D.C. variable-speed main drive motor:
power, kW 60
speeds, r.p.m. ..... 300—1200

220/380 volt, 3 phase, 50 cycle A.C. motors for auxiliary drives:
number 5
total power, kW 9

Space Occupied

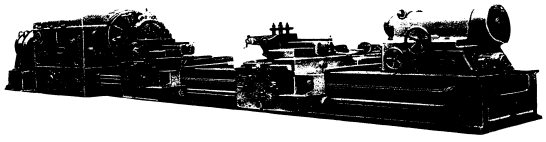
Floor space, mm ..... 13200×2340
Height of machine, mm 2060

Weight

Net weight (with accessories and electrical equipment), kg ..... approx. 51450

ENGINE LATHE

MODEL 1660Г



The 1660Г Engine Lathe is designed for all general lathe work, as well as for cutting threads.

Machining is performed by cutting tools, fastened in the tool head of the cross slide.

Longitudinal and cross feeds are obtained from the feed gear box. Metric, English and Module threads are obtained through the use of the feed gear box and lead screw without change gears.

The longitudinal travel of the carriage is engaged and disengaged by a clutch on the feed shaft.

Spindle speeds are varied by regulating the D.C. variable-speed electric motor of the main drive and by means of the change speed gear box, arranged in the headstock.

Speeds are changed by hydraulic means.

The tailstock is equipped with a live center.

The carriage and the tailstock are provided with rapid traverse from separate electric motors.

The machine is equipped with eight electric motors.

The machine has push-button controls.

SPECIFICATIONS

Capacity

Height of centers, mm 650
Maximum distance between centers, mm 8300
Maximum swing over bed ways, mm 1250
Maximum diameter that can be turned, mm:
over carriage 950
over bed 1250
Maximum length of turning, mm 8300
Threads that can be cut:
Metric, pitch in mm ..... 1—60
English, threads per inch .... 30—0.5
Module ..... 0.25—15
Range of external tapers that can be turned ..... 0.001—0.06
Maximum weight of work piece, tons 30

Carriages

Number of carriages 2
Standard size of tool shank, mm .. 40×60
Swivel of upper part of tool slide .. ±45°

Steady Rests

Range of work diameters accommodated, mm:
- open ..... 600—950
- closed ..... 150—350
- closed ..... 350—600
- semi-closed ..... 100—200

Speeds and Feeds

Range of spindle speeds, r.p.m. ... 3.15—200
Number of longitudinal and cross feeds 48
Range of feeds, mm per revolution of spindle:
- longitudinal (carriage) .. 0.19—11.4
- cross (cross slide) ..... 0.075—4.5

Rapid traverse of carriage, m/min. .. 3

Drive

D.C. variable-speed main drive motor:
- power, kW 60
- speeds, r.p.m. ..... 300—1200

220/380 volt, 3 phase, 50 cycle A.C. motors for auxiliary drives:
- number 7
- total power, kW 12.5

Space Occupied

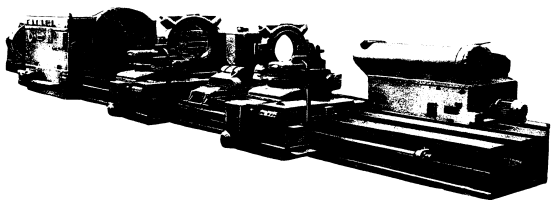
Floor space, mm ..... 15200×2340
Height of machine, mm 2060

Weight

Net weight (with accessories and electrical equipment), kg . approx. 58750

HEAVY DUTY LATHE

MODEL 1670



The 1670 Heavy Duty Lathe is designed for all general lathe work, as well as for cutting short Metric and English threads.

Machining is performed by cutting tools, fastened in the tool heads of the cross slides. Longitudinal and cross feeds are obtained from the feed box. The longitudinal travel of the carriage is engaged and disengaged by a clutch on the feed shafts.

Spindle speeds are varied by regulating the D.C. variable-speed electric motor of the main drive and by means of the speed change gears, arranged in the headstock.

Speeds are changed hydraulically.

The tailstock is equipped with a live center.

The carriages and the tailstock are provided with rapid traverse from separate electric motors.

The machine is equipped with eleven electric motors.

The machine has push-button controls.

SPECIFICATIONS

Capacity

Height of centers, mm 800
Maximum distance between centers, mm 8500
Maximum swing over bed ways, mm 1580
Maximum diameter that can be turned over carriage, mm 1120
Threads that can be cut:
- Metric, pitch in mm ..... 1—48
- English, threads per inch .... 1—32

Maximum length of threads that can be cut, mm 900
Maximum weight of work piece, tons 50

Carriages

Number of carriages:
- front 2
- rear 1

Standard size of tool shanks, mm ... 80×80
Maximum longitudinal travel of tool slide, mm 900
Swivel of tool slide ..... 90°

Steady Rests

Range of work diameters accommodated, mm:
- closed ..... 350—600
- closed ..... 600—950
- open ..... 950—1425

Speeds and Feeds

Range of spindle speeds, r.p.m. .. 2.5—160
Range of feeds, mm per revolution of spindle:
- longitudinal (carriage) ..... 0.2—19
- transversal (cross slide) .. 0.09—7.78

Rapid traverse, m/min.:
- carriages 2.6
- tailstock 3

Drive

D.C. variable-speed main drive motor:
- power, kW 100
- speed, r.p.m. ..... 300—1200

Space Occupied

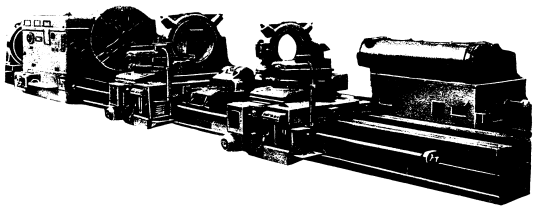
Floor space, mm ..... 17300×4060
Height of machine, mm 2500

Weight

Net weight, kg ..... approx. 132000

HEAVY DUTY LATHE

MODEL 1680



The 1680 Heavy Duty Lathe is designed for all general lathe work as well as for cutting short Metric and English threads.

Machining is performed by cutting tools, fastened in the tool heads of the cross slides. Longitudinal and cross feeds are obtained from the feed gear box.

The longitudinal travel of the carriage is engaged and disengaged by a clutch on the feed shaft. Spindle speeds are varied by regulating the D.C. variable-speed electric motor of the main drive and by means of the change speed gear box, arranged in the headstock.

Speeds are changed hydraulically.

The tailstock is equipped with a live center.

The carriages and tailstock are provided with rapid power travel from separate electric motors.

The machine is equipped with eleven electric motors.

The machine has push-button controls.

SPECIFICATIONS

Capacity

Height of centers, mm 1000
Distance between centers, mm 10000
Maximum swing over bed ways, mm 1980
Maximum diameter that can be turned over carriage, mm 1650
Threads that can be cut:
- Metric, pitch in mm ..... 1—48
- English, threads per inch .... 1—32

Maximum length of threads that can be cut, mm 900
Maximum weight of work piece, tons 50

Carriages

Number of carriages:
- front 2
- rear 1

Standard size of tool shanks, mm .. 80×80
Maximum longitudinal travel of tool slide, mm 900
Swivel of tool slide ..... 90°

Steady Rests

Range of work diameters accommodated, mm:
- closed ..... 350—600
- closed ..... 600—950
- open ..... 950—1425

Speeds and Feeds

Range of spindle speeds, r.p.m. ..... 2—128
Range of feeds, mm per revolution of spindle:
- longitudinal (carriage) ..... 0.2—19
- cross (cross slide) ..... 0.09—7.78

Drive

D.C. variable-speed main drive motor:
- power, kW 100
- speeds, r.p.m. ..... 300—1200

Space Occupied

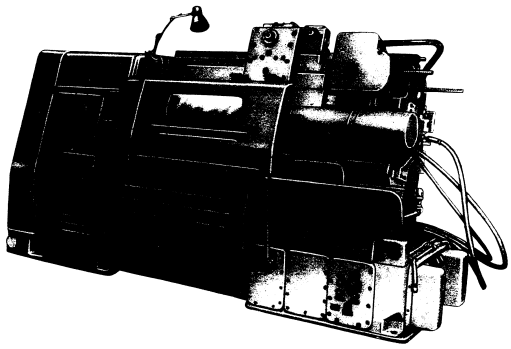
Floor space, mm ..... 18260×4060
Height of machine, mm 2750

Weight

Net weight (with accessories and electrical equipment), kg . approx. 141500

HYDRAULIC MULTITOOL SEMI-AUTOMATIC LATHE

MODEL 1721



The 1721 Semi-Automatic Lathe is designed for machining forgings, castings, or bars held between centers. Rigid construction, ample power, high spindle speeds, accuracy and ease of operation, are the outstanding features of the machine.

The work is driven from an independent electric motor through a change speed gear box. Spindle speeds are provided by shifting and change gears.

The feeds of the cross slides, as well as tailstock spindle travel, and clamping are operated hydraulically. Feed range of cross slides are infinitely variable, changes being obtained by a throttle valve.

The longitudinal (lower) slide is fitted with a device for receding the tools at the end of the working cycle. The machine operates on an automatic cycle, comprising: simultaneous rapid approach of all slides, working stroke and separate rapid retraction of slides at the end of the working stroke. Any one of the slides can be excluded from the working cycle.

During the setting-up the travel of both slides is effected alternately by turning one handle, besides the slides can travel either at working or at rapid travel rates.

The machine is provided with an interlocking arrangement, preventing the retraction of the tailstock spindle during rotation of the work.

The machine is equipped with a safety overloading device for withdrawing the cross tool slides from the work.

SPECIFICATIONS

Capacity

Height of centers, mm	185
Maximum swing over lower slide, mm	460
Maximum diameter that can be machined, mm	200
Distance between centers, mm	800; 1250

Headstock and Tailstock

Diameter of spindle flange, mm	210
Taper hole in headstock spindle	Metric 80
Taper hole in tailstock spindle	Morse No. 5
Maximum travel of tailstock spindle, mm	175

Cross Slides

Number of slides	2
Longitudinal travel of slides, mm:	
infeed at 30°	290
infeed at 49°	230
Cross travel of slides, mm	85

Speeds and Feeds

Number of spindle speeds	14
Range of spindle speeds, r.p.m.	71—1410
Range of slide feeds (infinitely variable), mm/min.:	
longitudinal	20—700
cross	12—400

Drive

220/380 volt, 3 phase, 50 cycle A. C. motors:	
Main drive:	
Power, kW:	
for light work	14
for medium work	20
for heavy work	28
Speed, r.p.m.	1500
Hydraulic pump drive:	
power, kW	4.5
speed, r.p.m.	1000

Space Occupied

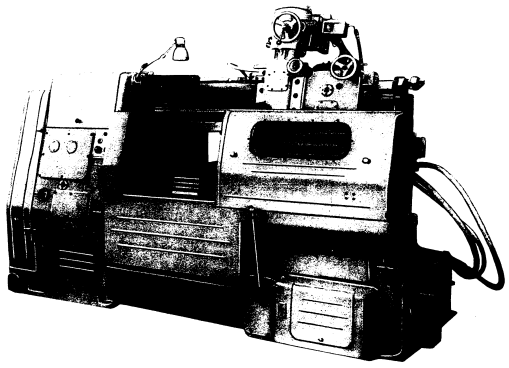
Floor space, mm:	
for 800 mm between centers	2930×1345
for 1250 mm between centers	3360×1345
Height of machine, mm	1760

Weight

Net weight, kg:	
for 800 mm between centers	approx. 4800
for 1250 mm between centers	approx. 5500

HYDRAULIC MULTITOOL SEMI-AUTOMATIC COPYING LATHE

MODEL 1722



The 1722 Semi-Automatic Copying Lathe is designed for copying contours and stepped shafts held between centers. Rigid construction, ample power, high spindle speeds, accuracy and ease of operation are the outstanding features of the machine.

The work is driven from an independent electric motor through a change speed gear box. Spindle speeds are provided by shifting and change gears.

The copying slide of the machine is equipped with a hydraulic tracing device, which provides for machining the work in accordance with the template.

The machine can be equipped with two facing cross slides for cutting

grooves, which cannot be machined by the copying slide due to the form of the cutting tools.

The feeds of cross slides, as well as tailstock spindle travel and clamping are operated hydraulically. Feed range of cross slides are infinitely variable, changes being obtained by a throttle valve.

The machine operates on an automatic cycle, comprising: simultaneous rapid approach of all slides, working stroke and separate rapid retraction of slides at the end of the working stroke. Any one of the slides can be excluded from the working cycle.

During the setting-up, the travel of both slides is effected alternately by turning a handle, besides, the slides can travel either at working or at rapid travel rates. The machine is provided with an interlocking arrangement, preventing the retraction of the tailstock spindle during rotation of the work.

The machine is equipped with a safety overloading device for withdrawing the cross tool slides from the work. The hydraulic system of the machine ensures constant feed of the copying slide, independent of the form of the work.

SPECIFICATIONS

Capacity

Height of centers, mm	185
Maximum swing over bed, mm	490
Maximum diameter that can be machined, mm	200
Distance between centers, mm	800; 1250

Headstock and Tailstock

Diameter of spindle flange, mm	210
Taper hole in headstock spindle	Metric 80
Taper hole in tailstock spindle	Morse No. 5
Maximum travel of tailstock spindle, mm	175

Copying Slide

Working (longitudinal) travel of copying slide (acc. to distance between centers), mm	760; 1200
Cross travel of copying slide, mm	110

Cross Slides

Number of cross slides	2
Working travel of facing slides, mm	100

Speeds and Feeds

Number of spindle speeds	14
Range of spindle speeds, r.p.m.	71—1410
Range of feeds of copying slide (infinitely variable), mm/min.	20—700

Drive

220/380 volt, 3 phase, 50 cycle A. C. motors:	
Main drive:	
Power, kW:	
for light work	14
for medium work	20
for heavy work	28
Speed, r.p.m.	1500
Hydraulic pump drive:	
power, kW	4.5
speed, r.p.m.	1000

Space Occupied

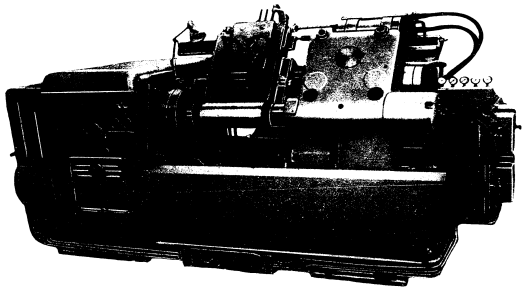
Floor space, mm:	
for 800 mm between centers	2930×1345
for 1250 mm between centers	3700×1345
Height of machine, mm	2100

Weight

Net weight, kg:	
for 800 mm between centers	approx. 5500
for 1250 mm between centers	approx. 6000

HYDRAULIC MULTITOOL SEMI-AUTOMATIC LATHE

MODEL 1731



The 1731 Semi-Automatic Lathe is designed for machining forgings, castings, or bars held between centers. Rigid construction, ample power, high spindle speeds, accuracy and ease of operation, are the outstanding features of the machine.

The work is driven from an independent electric motor through a change speed gear box. Spindle speeds are provided by shifting and change gears.

The feeds of the cross slides, as well as tailstock spindle travel, and clamping are operated hydraulically. Feed range of cross slides are infinitely variable, changes being obtained by a throttle valve.

The longitudinal (lower) slide is fitted with a device for receding the tools at the end of the working cycle. The machine operates on a semi-automatic cycle, comprising: simultaneous rapid approach of all slides, working stroke and separate rapid retraction of slides at the end of the working stroke. Any one of the slides can be excluded from the working cycle.

During the setting-up the travel of both slides is effected alternately by turning one handle, besides the slides can travel either at working or at rapid travel rates.

The machine is provided with an interlocking arrangement, preventing the retraction of the tailstock spindle during rotation of the work.

The machine is equipped with a safety overloading device for withdrawing the cross tool slides from the work.

SPECIFICATIONS

Capacity

Maximum swing, mm:
- over bed 580
- over carriage of upper slide .. 435

Maximum diameter that can be machined, mm 320

Distance between centers, mm:
- minimum 180
- maximum 870

Cross Slides

Number of slides 2

Working travel of lower slide, mm .. 350

Cross travel of lower slide ..... 85 mm plus 130 mm (by adjustment)

Working travel of upper slide, mm .. 100

Speeds and Feeds

Number of spindle speeds 26

Range of spindle speeds, r.p.m. .. 56—1000

Range of slide feeds, mm/min.:
- lower ..... 13—800
- upper ..... 4—340

Drive

Power of main drive motor, kW .. 20—40

Space Occupied

Floor space, mm ..... 3500×1650

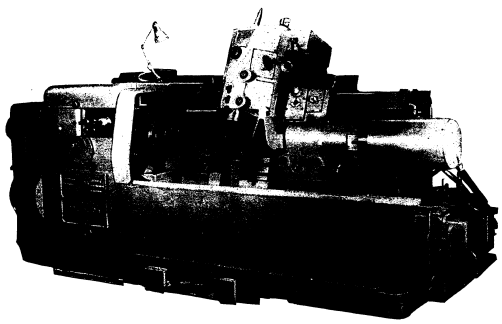
Height of machine, mm 1825

Weight

Net weight, kg ..... approx. 8000

HYDRAULIC MULTITOOL SEMI-AUTOMATIC COPYING LATHE

MODEL 1731C



The 1731C Semi-Automatic Copying Lathe is designed for copying contours and stepped shafts held between centers. Rigid construction, ample power, high spindle speeds, accuracy and ease of operation are the outstanding features of the machine.

The work is driven from an independent electric motor through a change speed gear box. Spindle speeds are provided by shifting and change gears.

The copying slide of the machine is equipped with a hydraulic tracing device, which provides for machining the work in accordance with the template.

The machine can be equipped with one or two additional facing cross slides for cutting grooves, which cannot be machined by the copying slide due to the form of the cutting tools.

The feeds of cross slides, as well as tailstock spindle travel and clamping are operated hydraulically. Feed range of cross slides are infinitely variable, changes being obtained by a throttle valve.

The machine operates on a semi-automatic cycle, comprising: simultaneous rapid approach of all slides, working stroke and separate rapid retraction of slides at the end of the working stroke. Any one of the slides can be excluded from the working cycle.

During the setting-up, the travel of both slides is effected alternately by turning a handle, besides, the slides can travel either at working or at rapid travel rates. The machine is provided with an interlocking arrangement, preventing the retraction of the tailstock spindle during rotation of the work.

The machine is equipped with a safety overloading device for withdrawing the cross tool slides from the work. The hydraulic system of the machine ensures constant feed of the copying slide, independent of the form of the work.

SPECIFICATIONS

Capacity

Maximum swing over bed, mm	565
Maximum diameter that can be machined, mm:	
over copying slide	310
over facing slide	160
Distance between centers, mm:	
minimum (without facing slides)	180
maximum	920

Cross Slides

Number of cross slides	from 1 to 3
Working (longitudinal) travel of copying slide, mm	750
Cross travel of copying slide, mm	80
Working travel of facing slides, mm	80

Speeds and Feeds

Number of spindle speeds	26
Range of spindle speeds, r.p.m.	56—1000
Range of feeds, mm/min.:	
copying slide	7.5—500
facing slides	7.5—400

Drive

Power of main drive motor, kW	20—55

Space Occupied

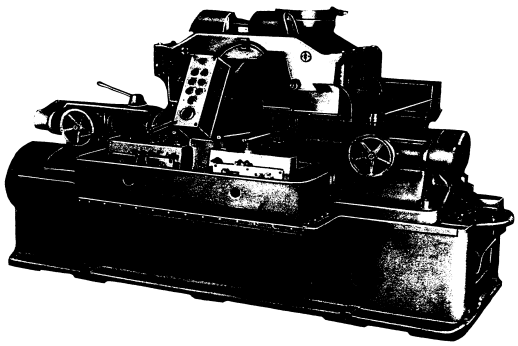
Floor space, mm	3500×1800
Height of machine, mm	2100

Weight

Net weight, kg	approx. 8300

MULTITOOL SEMI-AUTOMATIC CRANKSHAFT LATHE

MODEL 1A84



The 1A84 Semi-Automatic Multitool Crankshaft Lathe is designed for turning of main bearings, cheeks and bearings of crankshafts.

Machine works on the following automatic cycle: rapid approach of slides, rough, medium and finish feed, rapid return of slides to the starting position.

Feed change during the operating cycles is automatic.

Turning is accomplished by means of wide tools and cross feed. Tools are clamped on front and rear slides. Cycle of operation is controlled through a special electrical control panel.

Central drive mechanism for rotation of work piece is driven by a separate electric motor through a gear reducer. Front and rear slides, mounted on the right- and left-hand carriages are clamped to the bed.

Slides feed is hydraulic.

The machine is equipped with three electric motors.

SPECIFICATIONS

Capacity

Height of centers over bed, mm	350
Height of centers over carriage, mm	225
Distance between centers, mm:	
minimum	750
maximum	1200

Center Drive

Diameter of hole in center drive for chuck mounting, mm	560

Slides

Maximum cross traverse of front and rear slides, mm	175

Speeds and Feeds

Speed of central drive (change is by pick-off gears), r.p.m.:	
minimum	22
maximum	56
Range of slides feed (hydraulic), mm/min.	1—84
Rapid traverse of slides, m/min.	1.0

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:	
Main drive:	
power, kW	28
speed, r.p.m.	1500
Hydraulic feed:	
power, kW	3.5
speed, r.p.m.	1000
Coolant pump:	
power, kW	0.65
speed, r.p.m.	3000

Space Occupied

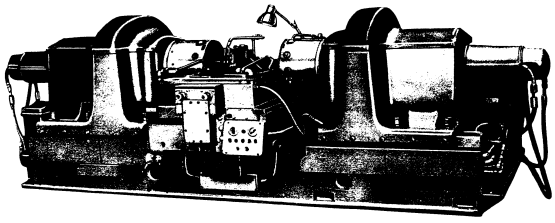
Floor space, mm	3435×2035
Height of machine, mm	1680

Weight

Net weight, kg	approx. 10025

MULTITOOL SEMI-AUTOMATIC CRANKSHAFT LATHE

MODEL 1A857



The 1A857 Semi-Automatic Crankshaft Lathe is designed for rough and finish turning, simultaneously two crankpins and their adjacent cheeks on crankshafts. Besides this, the machine can also be set-up for turning the main journals of crankshafts.

The machine operates on an automatic cycle, comprising: rapid tool approach, coarse, average and fine feed rates, rapid withdrawal of tool slides to their starting position at end of turning. Turning is effected with broad tools for cross feeds.

The working cycle is controlled by special electrical apparatus. During the cycle, feed rates and speeds are changed automatically.

The front and rear tool slides are mounted on the carriage, rigidly fastened to the bed of the machine.

The tool slides are fed hydraulically.

The machine is equipped with three electric motors.

SPECIFICATIONS

Capacity

Height of centers, mm	470
Distance between centers, mm:	
maximum	1300
minimum	780
Maximum diameter of work that can be machined, mm:	
over bed ways	425
over carriage	210

Tool Slides

Number of tool slides:	
front	1
rear	1
Maximum cross travel, mm	210

Speeds and Feeds

Range of spindle speeds, r.p.m.	8—48.5
Note: The spindle speed at the middle of the slide travel is doubled automatically.	
Range of feeds (hydraulic), mm per revolution of spindle	0.05—1.5

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:

Main drive:	
power, kW	14
speed, r.p.m.	1500
Hydraulic feeds:	
power, kW	2.8
speed, r.p.m.	1000
Coolant pump:	
power, kW	0.15
speed, r.p.m.	3000

Space Occupied

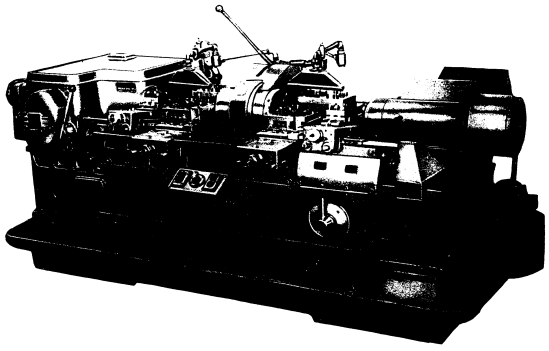
Floor space, mm	4480×2210
Height of machine, mm	1515

Weight

Net weight, kg	approx. 12850

MULTITOOL SEMI-AUTOMATIC CAMSHAFT LATHE

MODEL 1891



The 1891 Semi-Automatic Camshaft Lathe is a multitool machine designed for turning of journals and facing of cam sides (cheeks) on end parts of camshafts.

For each size of camshaft to be machined the machine has a special set-up and fully automatic cycle of operation.

The machine is equipped with front longitudinal and cross slides and with rear cross slides. Number of slides depends on the size of camshaft machined.

Central drive spindle is driven from a separate motor through Vee belts, pick-off gears through drive shaft and series of gears.

Feed movement is taken from an intermediate shaft and then through gears, overrunning clutch, worm and wheel, and drum type cam.

Working feed of cross slides is accomplished by means of flat cams mounted inside of slide supports.

Rapid traverse of front and rear slides (approach and return) is obtained from a separate motor through gears and overrunning clutch.

Automatic cycle of machine is controlled by means of electrical control device with operating disc, for one turn of which the machine goes through one full working cycle.

SPECIFICATIONS

Capacity

Height of centers over bed, mm	250
Distance between faces of headstock and footstock spindles, mm	1085
Maximum diameter of work piece, mm	82
Maximum length of turning with longitudinal slide, mm	100

Slides

	Front slides longitudinal	Front slides cross	Rear slides cross
Number of slides (according to set-up)	2	2	2
Size of surface for tool block clamping, mm	150×150	215×220	250×265
Distance from tool bottom to center line, mm	40	70	60
Distance from center line to tool block face, mm	50—82	50—100	35—85
Maximum traverse, mm:			
longitudinal	115	—	—
cross	infeed according to set-up	60	40

Central Drive

Diameter of hole in drive chuck, mm	80

Footstock

Taper of rotating center sleeve	Morse No. 5
Maximum traverse of spindle (pneumatic), mm	100

Speeds and Feeds

Number of spindle speeds	4
Spindle speeds, r.p.m.:	
minimum	80
maximum	153
Feeds, mm per revolution of spindle:	
longitudinal	0.10; 0.13; 0.16; 0.20; 0.27
cross	0.04; 0.05; 0.06; 0.07; 0.10
Rapid traverse of front slides, m/min:	
longitudinal:	
approach	0.42
return	1.73
cross:	
approach	0.33
return	1.4
Rapid cross traverse of rear slide, m/min.:	
approach	0.18
return	0.73

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:	
Main drive:	
power, kW	20
speed, r.p.m.	1500
Slides rapid traverse:	
power, kW	1.7
speed, r.p.m.	1500
Coolant pump:	
power, kW	0.65
speed, r.p.m.	3000

Space Occupied

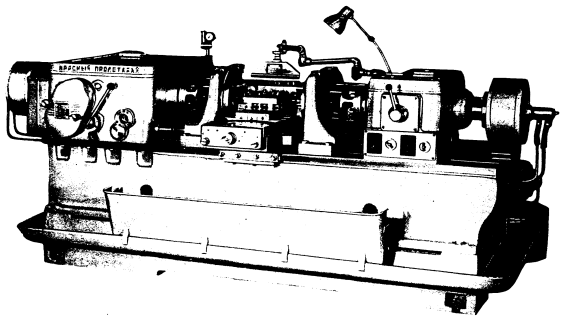
Floor space, mm	3010×1980
Height of machine, mm	1550

Weight

Net weight, kg	approx. 6675

MULTITOOL SEMI-AUTOMATIC CAMSHAFT LATHE

MODEL 1892



The 1892 Semi-Automatic Camshaft Lathe is a multitool machine designed for turning of journals and facing of cam sides (cheeks) in a middle part of camshafts.

For each size of camshaft to be machined the machine has a special set-up and fully automatic cycle of operation.

The machine stops automatically.

Headstock spindle is driven from a separate motor through Vee belts, pick-off gears and two bevel gears with spiral teeth.

Footstock spindle is driven from headstock spindle through series of gears and drive shaft.

Change of spindle speeds as well as change of feeds is obtained through pick-off gears.

Feed movement is taken from an intermediate shaft and then through gears, overrunning clutch, worm and wheel and drum type cam.

Working feed of cross slides is accomplished by means of flat cams mounted inside of slide supports.

Rapid traverse of front and rear slides (approach and return) is obtained from a separate motor through gears and overrunning clutch. Automatic

cycle of machine is controlled by means of electrical control device with operating disc, for one turn of which the machine goes through one full working cycle.

The machine is equipped with three motors.

SPECIFICATIONS

Capacity

Height of centers over bed, mm	250
Distance between faces of headstock and footstock spindles, mm	1205
Maximum diameters of work machined over slide, mm	170

Slides

Working cross travel of front slide, mm		10
Working cross travel of rear slide, mm		40
Size of surface for tool block clamping, mm	Front slide 215×325	Rear slide 250×325
Distance from tool bottom to center line, mm	70	60
Distance from center line to tool block face, mm	55—95	35—85
Maximum cross travel, mm	60	40

Headstock

Diameter of hole in spindle, mm	52
Taper in spindle	1 : 24

Footstock

Diameter of hole in spindle, mm	52
Taper in spindle	1 : 24

Speeds and Feeds

Number of spindle speeds	4
Speeds of spindle, r.p.m.:	
minimum	80
maximum	153
Cross feeds of slides, mm per revolution of spindle	0.04; 0.05; 0.06; 0.07; 0.10
Rapid traverse of front slide, m/min.:	
approach	0.33
return	1.4
Rapid traverse of rear slide, mm/min.:	
approach	0.18
return	0.73

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:

Main drive:	
power, kW	14
speed, r.p.m.	1500
Rapid traverse of slides:	
power, kW	1.7
speed, r.p.m.	1500
Coolant pump:	
power, kW	0.65
speed, r.p.m.	3000

Space Occupied

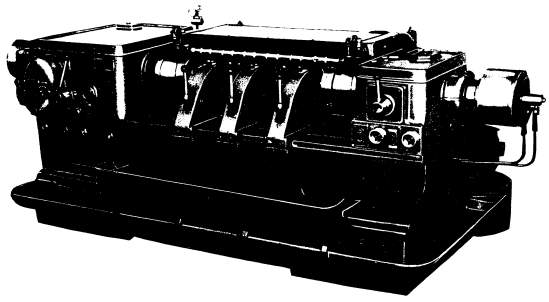
Floor space, mm	3440×1955
Height of machine, mm	1370

Weight

Net weight, kg	approx. 6400

MULTITOOL SEMI-AUTOMATIC CAMSHAFT LATHE

MODEL 1893



The 1893 Semi-Automatic Camshaft Lathe is designed for simultaneously turning all the cams of camshaft.

For each size of camshaft to be machined, the machine has a special set-up.

The machine operates on a completely automatic cycle.

The profiles of cams are turned in two cuts (rough and finish).

Headstock spindle is driven from a separate motor through Vee belts, change gears and a pair of bevel gears with spiral teeth. The tailstock spindle is driven through a driving shaft and series of gears from the headstock spindle.

Change of spindle speeds as well as change of feeds are obtained through change gears.

The cutting tools are clamped in special swivelling tool holders, thereby insuring a constant cutting angle.

The required profile of the cams being turned is provided for by master camshaft and tool actuating camshaft, having a two-sided drive. Longitudinal travel of the carriage is accomplished from a cam drum.

The automatic cycle is controlled by an electrical control-unit with a cam disc, one turn of which corresponds to a full working cycle.

SPECIFICATIONS

Capacity

Height of centers over bed, mm	250
Maximum distance between faces of headstock and tailstock spindles, mm	1139
Maximum diameter of work that can be machined, mm	70

Carriage

Maximum longitudinal travel of carriage, mm	30
Height from bottom of tool to line of centers, mm	12
Maximum size of cutting tool shank, mm	10×12
Cross infeed of tool, mm	1.5

Headstock and Tailstock

Spindle bore diameter, mm	52
Taper of spindle bore	1:24

Speeds and Feeds

Number of spindle speeds	4
Range of spindle speeds, r.p.m.:	
minimum	80
maximum	153
Range of longitudinal feeds per revolution of spindle, mm	0.08; 0.11; 0.16; 0.24
Rapid traverse of carriage (return), m/min.:	1.62

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:

Main drive:	
power, kW	10
speed, r.p.m.	1500
Rapid traverse of carriage:	
power, kW	1.7
speed, r.p.m.	1500
Coolant pump:	
power, kW	0.65
speed, r.p.m.	3000

Space Occupied

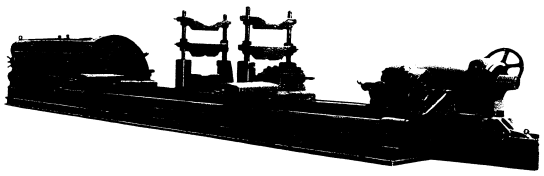
Floor space, mm	3440×1905
Height of machine, mm	1300

Weight

Net weight, kg	approx. 8000

ROLL TURNING LATHE

MODEL 1A947



The 1A947 Roll Turning Lathe is designed for rough and finish turning of rolls of rolling mills and other similar heavy works.

Machining is done by tools clamped in tool blocks of two slides. Longitudinal and cross feed of both slides is obtained through back gears and ratchet mechanism. Longitudinal feed engagement and disengagement is accomplished by means of feed screw split nuts.

Change of spindle speeds is made by headstock sliding gears.

The machine is supplied with three motors.

SPECIFICATIONS

Capacity

Height of centers, mm	650
Distance between centers, mm	7000
Maximum diameter of work machined, mm	1250
Maximum length of work machined, mm	7000

Slides

Number of slides	2
Number of tool blocks on each slide	1
Distance from tool bottom to center line, mm	70
Maximum distance from tool block face to center line, mm	800
Maximum size of tool shank, mm:	
width	270
height	100
Maximum travel of slides, mm:	
longitudinal	5500
cross	350

Speeds and Feeds

Number of spindle speeds	16
Range of spindle speeds, r.p.m.	0.29—27.87

Range of slides feeds, mm per revolution of spindle:
longitudinal ..... 0.26—10.27
cross ..... 0.1—1.95

Drive

220/380 volt, 3 phase, 50 cycle A.C. motors:
Main drive:
power, kW 28
speed, r.p.m. 1000
Rapid traverse:
power, kW 2.8
speed, r.p.m. 1000
Coolant pump:
power, kW 1.0
speed, r.p.m. 1500

Space Occupied

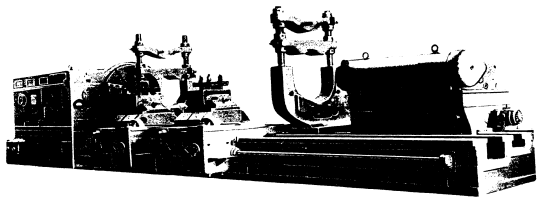
Floor space, mm ..... 12650×3180
Height of machine, mm 2175

Weight

Net weight, kg ..... approx. 45000

ROLL TURNING LATHE

MODEL 1827C



The 1827C Roll Turning Lathe is designed for rough and finish turning as well as for sizing large rolling mill rolls.

The machine is equipped with two front and one rear saddles. The longitudinal and cross feeds of the saddles and slides are obtained through a feed gear box and feed rods.

The saddle longitudinal traverse is engaged or disengaged by means of couplings on the feed rods.

The spindle speed is changed by controlling the main drive adjustable speed D.C. motor and the headstock gear box.

Gear shifting is operated hydraulically.

The tailstock is equipped with a live center.

Independent motors are provided for saddle and tailstock rapid traverse.

The lathe is equipped with nine electric motors and push-button control.

SPECIFICATIONS

Capacity

Height of centers, mm 1000
Distance between centers, mm 6500
Maximum swing over bed ways, mm 1950
Maximum swing over saddle, mm .. 1500
Maximum turning length, mm 6500
Maximum weight of work, tons 50

Saddles

Number of saddles:
front 2
rear 1
Standard size of tool shank, mm .. 80×80

Steady Rests

Number of closed steady rests 2

Speeds and Feeds

Range of spindle speeds, r.p.m. .... 1.0—64
Range of saddle feeds, mm per revolution of spindle:
longitudinal ..... 0.26—11.7
cross ..... 0.09—4.1

Speed of saddle rapid traverse, m/min.:	
longitudinal	2.5
cross	0.87
Speed of tailstock rapid traverse, m/min.	3

Drive

Main drive D.C. motor:	
power, kW	100
speed, r.p.m.	300—1200

Space Occupied

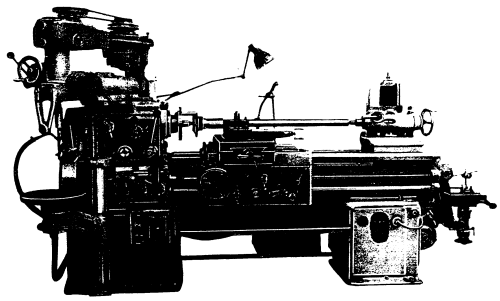
Floor space, mm	14600×3960
Height of machine, mm	3100

Weight

Net weight (including electrical equipment and accessories), kg approx.	120000

COMBINATION TURNING, MILLING AND DRILLING MACHINE

MODEL 1A95



The 1A95 Combination Turning, Milling and Drilling Machine is designed for turning, milling, drilling, boring, grinding, slotting and tool grinding operations. The machine comprises turning-milling and drilling-milling units and grinding, tool and cutter grinding and slotting attachments. The headstock is movable along the vertical ways of column, which is clamped to the bed.

At the top part of the headstock drilling and milling unit is mounted. When needed the slotting attachment is clamped to the front face of the headstock. Grinding attachment for internal and external grinding is mounted on the slide of carriage. The tool and cutter grinding attachment is clamped to the right part of machine. Drive of the turning-milling and drilling-milling units as well as grinding and tool and cutter grinding attachments is from separate motors.

Change of spindle speeds of the turning-milling unit is accomplished through operating levers of the headstock, and the drilling-milling unit—by means of belt changing of the pulley steps and by back gears.

The machine can be efficiently used in the repairing shops, on ships, etc.

SPECIFICATIONS

TURNING AND MILLING UNIT

Capacity

Height of centers, mm ..... 200—325
Maximum distance between centers, mm 1000
Bar capacity, mm 32
Maximum diameter of work turning over lower part of the slide 420
Maximum length of turning, mm 700

Spindle

Diameter of hole in spindle, mm 35
Taper hole in spindle ..... Morse No. 5

Speeds and Feeds

Number of spindle speeds 12
Range of spindle speeds, r.p.m. .. 23—1000
Threads that can be cut:
Metric, pitch in mm ..... 0.5—18
English, threads per inch .... 28—3
Range of slide feeds, mm per revolution of spindle:
longitudinal ..... 0.13—1.17
cross ..... 0.07—0.65

DRILLING AND MILLING UNIT

Sliding Table

Sliding table size, mm:
length 700
width 300
Maximum table traverse, mm:
longitudinal 820
cross 320

Drilling Table

Maximum diameter of drilling, mm .. 25
Diameter of table, mm 320
Vertical movement of table, mm 495
Maximum swivel of table around column, deg. 90

Spindle

Maximum travel of spindle, mm 80
Taper hole in spindle ..... Morse No. 3

Speeds

Number of spindle speeds 6
Range of spindle speeds, r.p.m. .. 62—1118

ATTACHMENTS

Slotting Attachment

Length of ram stroke, mm 100
Tool overhang from headstock, mm .. 300
Size of hole for tool clamping, mm 25×17
Number of ram speeds 4
Range of ram speeds, strokes per minute ..... 7—58

Tool Grinding Attachment

Maximum diameter of grinding wheel, mm 100
Speed of grinding spindle, r.p.m. 5600

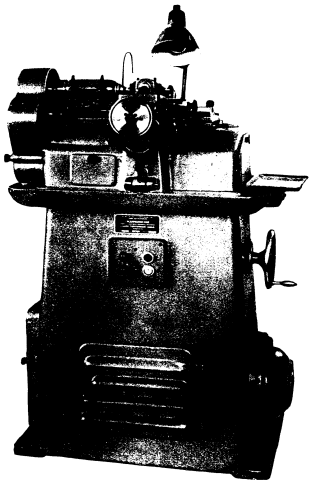
Grinding Attachment

Maximum diameter of grinding wheel, mm 150
Speeds of grinding spindle, r.p.m. ..... 3500 and 5700

Machine Model	1A95 For sea use		1A95H For general use	
	Direct Current Drive	Alternating Current Drive	Direct Current Drive	Alternating Current Drive
Drive				
Motors for:				
Turning and Milling Unit:				
power, kW	2.66	2.4	2.66	2.8
speed, r.p.m.	1500	1500	1500	1500
Drilling and Milling Unit:				
power, kW	0.71	0.75	0.71	1.0
speed, r.p.m.	2000	1500	2000	1500
Grinding and Tool Grinding Attachments:				
power, kW	0.65	0.6	0.65	1.0
speed, r.p.m.	2870	3000	2870	3000
Space Occupied				
Floor space, mm	2910×1290	2910×1290	2910×1290	2910×1290
Height of machine, mm	1785	1775	1785	1775
Weight				
Net weight, kg	approx. 2150	approx. 1900	approx. 2300	approx. 2050

HOB RELIEVING LATHE

MODEL 1810



The 1810 Relieving Lathe is designed for relieving of fine pitch straight flute hobs.

The machine works on semi-automatic cycle. Operation of the machine is from one push-button station, all movements being performed automatically by means of stops and hydraulic mechanisms.

Interlocking devices make possible successive operation of the machine mechanisms and prevent their breakage.

Change of spindle speeds is made through the infinitely variable drive.

The machine is supplied with rapid return mechanism.

Approved For Release 2010/08/31 : CIA-RDP81-01043R000800150003-0

SPECIFICATIONS

Capacity

Maximum distance from face of spindle to supporting (back) center, mm	65
Maximum diameter of work machined, mm	40
Maximum length of machining, mm	50
Module of hobs relieved:	
minimum	0.03
maximum	0.8
Number of teeth of hobs relieved	8, 9, 10, 12, 14, 15

Spindle

Taper hole in spindle	Morse No. 2

Slide

Maximum travel of relieving slide, mm	2.8
Pitch of lead screws, modules	0.25; 0.5; 1

Speeds and Feeds

Range of spindle speeds (infinitely variable), r.p.m.	3.2—24.4
Range of relieving slide feed, mm per one stroke	0.0025—0.05

Drive

Two-speed main drive motor:	
power, kW	0.5/1.5
speeds, r.p.m.	750/3000

Space Occupied

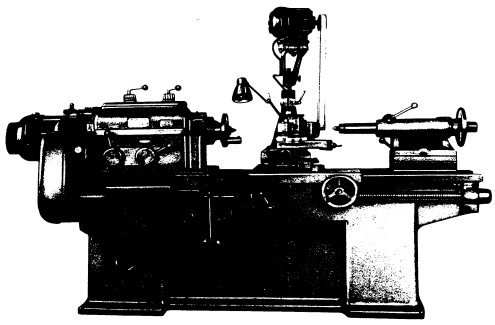
Floor space, mm	880×600
Height of machine, mm	1400

Weight

Net weight, kg	approx. 470

UNIVERSAL RELIEVING LATHE

MODEL 96



The 96 Universal Relieving Lathe is designed for relieving (with tool or grinding wheel) of teeth of different cutters on the outside diameter and face as well as for relieving of different cams, taps and reamers.

Besides different screw-cutting works may be done on this machine.

Change of spindle speeds is accomplished by means of headstock.

Threads of different type, number of flutes and spiral are obtained through pick-off gears.

Cross movement of slide is by hand only.

Relieving motion is also tripped during the rapid traverse of cross slide back to the starting position.

Relieving with grinding wheel is made by special attachments mounted on the machine. Spindle of grinding wheel is driven from a separate motor.

SPECIFICATIONS

Capacity

Height of centers, mm	280
Maximum distance between centers, mm	800
Maximum swing over slide, mm	290
Maximum relieving length, mm	560
Thread that can be cut:	
Metric, pitch in mm	0.5—240
English, threads per inch	60—0.1
Module	0.5—80
Pitch of spiral when relieving, mm:	
minimum	200
maximum	6000

Slide

Traverse of slide during relieving, mm	0.25—22
Maximum size of tool shank, mm	58×50
Maximum traverse of slide, mm:	
longitudinal (power and hand)	560
cross (hand)	100

Tool Slide

Maximum traverse of slide, mm:	
longitudinal	80
cross	100
Maximum tool slide swivel, deg.	±90

Headstock

Diameter of hole in spindle, mm	25
Taper hole in spindle	Morse No. 5

Tailstock

Taper hole in spindle	Morse No. 5
Maximum travel of spindle, mm	270
Setover on side, mm	plus 18; minus 12

Speeds and Feeds

Number of spindle speeds	8
Range of spindle speeds, r.p.m.:	
forward	4.5—49
reverse	9—98

Drive

220/380 volt, 3 phase, 50 cycle A.C. motor:

Main drive (two-speed):	
power, kW	2.0/3.0
speed, r.p.m.	750/1500
Grinding wheel:	
power, kW	0.6
speed, r.p.m.	3000

Space Occupied

Floor space, mm	3020×1080
Height of machine, mm	1830

Weight

Net weight, kg	approx. 2800

VSESOJUZNOJE EXPORTNO-IMPORTNOJE OBJEDINENIJE

"STANKOIMPORT"

EXPORTS AND IMPORTS:

- Machine Tools
- Woodworking Machinery
- Metal Working Machinery (Presses, Hammers, Shears, Cold Forming Machines, Punching Machines)
- Rolling Mills (imports)
- Measuring Instruments and Apparatus (for metal industry)
- Testing Machines and Instruments (for metals)
- Optical Instruments and Equipment
- Portable Electric and Pneumatic Tools (for metal and wood-working)
- Metal and Wood Cutting Tools
- Mechanic's Tools and Chucks
- Sintered Carbide and Hard-Alloy Products
- Abrasive Products
- Ball and Roller Bearings
- Microscopes of all types
- Motion-Picture Equipment and Accessories
- Geodetic Instruments and Equipment
- Photographic Cameras
- Binoculars
- Magnifiers
- Lenses
- Crude Optical Glass Blocks and Blanks

Design and specifications of the Machine Tools illustrated herein are subject to change without notice.

Vneshtorgizdat. Order No. 154

SPECIFICATIONS

Capacity

Height of centers, mm	280
Maximum distance between centers, mm	800
Maximum swing over slide, mm	290
Maximum relieving length, mm	560
Thread that can be cut:	
Metric, pitch in mm	0.5—240
English, threads per inch	60—0.1
Module	0.5—80
Pitch of spiral when relieving, mm:	
minimum	200
maximum	6000

Slide

Traverse of slide during relieving, mm	0.25—22
Maximum size of tool shank, mm	58×50
Maximum traverse of slide, mm:	
longitudinal (power and hand)	560
cross (hand)	100

Tool Slide

Maximum traverse of slide, mm:	
longitudinal	80
cross	100
Maximum tool slide swivel, deg.	±90

Headstock

Diameter of hole in spindle, mm	25
Taper hole in spindle	Morse No. 5

Tailstock

Taper hole in spindle	Morse No. 5
Maximum travel of spindle, mm	270
Setover on side, mm	plus 18; minus 12

Speeds and Feeds

Number of spindle speeds	8
Range of spindle speeds, r.p.m.:	
forward	4.5—49
reverse	9—98

Drive

220/380 volt, 3 phase, 50 cycle A.C. motor:

Main drive (two-speed):	
power, kW	2.0/3.0
speed, r.p.m.	750/1500
Grinding wheel:	
power, kW	0.6
speed, r.p.m.	3000

Space Occupied

Floor space, mm	3020×1080
Height of machine, mm	1830

Weight

Net weight, kg	approx. 2800

Vneshtorgizdat. Order No. 154